

Combined Author Index

- Abdo, Z.A.M. 2723-2726A
3111-3124A
45-51B
Adachi, G.-Y. 969-979A
Adams, B.L. 1367-1379A
Advani, A.H. 295-306B
Agarwal, A. 493-499A
Ahlers, M. 1529-1534A
Ahmed, M.S. 1137-1146A
Ajerssch, F. 2341-2348A
Akaiwa, N. 707-714B
Akbay, G. 231-239B
Akdogan, G. 335-343A
Akhtar, A. 2191-2199A
Alam, M. 2419-2428A
Albarran, J.L. 2341-2348A
Alkemper, J. 567-576B
Allain, E. 577-587B
1009-1015B
Allison, J. 133-146A
Allison, J.E. 3055-3068A
Alostaz, A. 195-201A
Alvarez, A. 1017-1024A
Amateau, M.F. 183-193A
Anagnostopoulos, J. 1095-1105B
Anderson, A.J. 1981-1988A
Ankem, S. 1675-1679A
2249-2251A
Anson, J.P. 1027-1032B
Aoki, K. 1877-1880A
Aoyama, T. 1333-1339A
Arai, K. 15-20B
Araki, H. 3009-3011A
Aramaki, M. 1185-1191A
Ardell, A.J. 2403-2408A
Arnborg, L. 287-293B
2455-2462A
Arvanitidis, I. 901-908B
Avishe, A. 723-729B
Babu, R. 459-464B
Baczynski, G.J. 3045-3054A
Baek, W.H. 627-632A
Bag, A. 1193-1202A
Balicki, E. 2803-2808A
Banerjee, M. 723-729B
Banerjee, D. 789-798A
Banerjee, S. 41-52A
Barbante, G.G. 589-595B
Barber, B. 427-435A
Baril, E. 681-695A
Bariat, F. 377-386A
387-397A
Barsoum, M.W. 363-369A
1727-1738A
Bataillard, L. 1275-1282A
Baxter, W.J. 195-201A
815-824A
1835-1841A
Beccard, R. 1047-1051A
Becker, A. 623-630B
Beckermann, C. 1357-1366A
2183-2189A
3016-3019A
Benihaddadene, T. 613-622B
1107B
67-74B
Bennour, F. 175-181A
Bentsen, L. 1989-1997A
Berbon, P.B. 149B
Bergeles, G. 1095-1105B
1809-1815A
Bertinetti, M.A. 2875-2884A
Beuth, J.L. 949-959A
Bharadwaj, R. 2419-2428A
Bidaye, A.C. 205-213B
Biermann, H. 1880-1882A
Bjerrgaard, H. 1843-1866A
Bjorneklett, B.I. 2667-2677A
Blecic, D. 1597-1603A
Blecic, Z. 1597-1603A
Bleck, W. 2619-2627A
Blot, P. 803-813B
Blohm, J. 1809-1815A
Bloyer, D.R. 633-642A
Bo, Y. 1147-1151A
1153-1157A
Bocardo, J.C.E. 505-513B
Boehle, C.J. 2305-2323A
2349-2367A
3055-3068A
Boileau, J.M. 2875-2884A
Bolmaro, R.E. 1083-1088B
Bonazza, R. 781-788A
Bonney, L.A. 551-561A
Bor, H.Y. 1945-1953A
Bottger, A.J. 149B
Bouris, D. 2989-2997A
Bourke, M.A.M. 553-566B
Brimacombe, J.K. 375-381B
Brocchi, E.A. 5-13B
Broderick, G. 1083-1088B
Brooks, P.W. 2129-2134A
Brozik, S.M. 2135-2146A
Brusthaug, S. 1999-2006A
Bryant, J.D. 1663-1673A
Buchmayr, B. 2931-2939A
Bull, S.J. 2129-2134A
Butt, D. 1843-1866A
Bystricky, P. 234-243A
Byun, G. 2611-2618A
Caceres, C.H. 307-313A
Calcaterra, J.R. 501-512A
Campbell, C.E. 2809-2816A
Campbell, J. 2817-2823A
Campbell, J.P. 563-577A
Cano, S. 773-778B
Cantor, B. 1341-1356A
Cao, G. 1101-1108A
Carnes, J.D. 2403-2408A
Carreño, F. 371-376A
Caton, M.J. 3055-3068A
Celentano, D. 731-744B
Chambreuil-Paret, A. 1327-1331A
Chan, K.S. 579-585A
925-939A
1203-1209A
1686A
2007-2018A
3025A
3239-3251A
Chandrasekar, S. 815-822B
Chang, J.C. 3191-3199A
Chang, L.C. 909-916A
Chang, S.-Y. 1119-1136A
Chang, Y.A. 1081-1095A
Chang, Y.W. 2037-2047A
Chao, C.G. 551-561A
917-923A
1717-1726A
Chaturvedi, M.C. 2591-2598A
Chen, G.L. 685-688B
Chen, H. 825-828A
Chen, L. 1097-1100A
Chen, L.H. 1549-1558A
1775-1784A
2258-2260A
2297-2303A
Chen, S. 1775-1784A
Chen, S.F. 1235-1247A
Chen, S.R. 53-64A
Chen, T.R. 2659-2666A
Chen, W. 411-416A
Chen, Z. 3069-3078A
Chen, Z.-P. 451-457B
Chen, Z.L. 31-40A
Cheng, C.P. 1549-1558A
Cheng, J. 427-435A
Cheynet, M.-C. 19-29A
Chi, R. 189-195B
Chiu, L.H. 781-788A
Choi, J.H. 377-386A
Choi, C.-S. 667-670A
Choi, S.H. 377-386A
Choo, S.-H. 1211-1221A
3131-3141A
Choo, W.K. 1495-1501A
Chou, K.-C. 3099-3102A
Choudhary, B.K. 2825-2834A
Chu, K.C. 1705-1716A
Chuang, T.H. 643-651A
941-948A
3191-3199A
Chun, J.-H. 1403-1409A
Chung, K. 377-386A
Chung, W.S. 215-221B
Cingolani, E. 493-499A
Clavel, M. 2853-2863A
Cockcroft, S.L. 2147-2158A
Coghlan, S.C. 307-313A
Colas, R. 773-778B
Collins, L.E. 3045-3054A
Conrad, H. 2809-2816A
2817-2823A
1981-1988A
2679-2687A
Cook, C.S. 1083-1088B
Cooley, K.M. 2539-2545A
Corradini, M.L. 1569-1578A
Corral, E. 803-813B
Corum, J.M. 731-744B
Cross, M. 1785-1795A
Cruchaga, M. 2735-2744A
Cui, Y. 2073-2087A
287-293B
Daehn, G.S. 2951-2958A
Dahle, A.K. 3201-3210A
Daniel, B.S.S. 2563-2573A
Darl, M.P. 1437-1447A
Das, A. 1437-1447A
Das, K. 175-181A
Das, S. 2611-2618A
Datta, S.K. 579-585A
Davidson, C.J. 925-939A
Davidson, D.L. 1686A
2007-2018A
3025A
2089-2096A
Dayananda, M.A. 535-543A
545-550A
2989-2997A
1913-1921A
Davis, C.L. 1177-1184A
Dayananda, M.A. 183-193A
Debro, T. 483-493B
Degterov, S.A. 661-669B
1033-1044B
Del Castillo, L. 1381-1389A
Delfino, S. 1169-1176A
DeLo, D.P. 1391-1402A
1425-1435A
2473-2481A
2619-2627A
3153-3165A
1047-1051A
Deng, Z. 2129-2134A
Desbiolles, J.-L. 2745-2752A
Deshpande, A. 403-410B
Desimoni, J. 2513-2522A
Deura, T.N. 607-611B
Deve, H.E. 171-188B
Devilee, R.A. 933-944B
Dey, G.K. 1039-1045A
Dickerson, R. 2167-2171A
Dickson, J.I. 2159-2165A
Ding, G. 2463-2472A
Ding, G.L. 271-277B
Ding, X. 1025-1038A
Dipasquale, J. 799-806A
Disam, J. 429-433B
Divakar, M. 231-233A
Dobromyslov, A.V. 1223-1233A
Doherty, R.D. 1341-1356A
Doherty, J.X. 505-513B
Donizak, J. 2135-2146A
Dons, A.L. 375-381B
Dos Reis, M.L. 2931-2939A
Doty, et al, R.E. 1027-1032B
Drew, R.A.L. 449-455A
Drezet, J.-M. 2409-2418A
Du, Y. 2713-2720A
Dudek, H.J. 829-838A
Dunand, D.C. 2989-2997A
745-750B
Duncan, A.J. 203-212A
Dunn, M.L. 1763-1774A
DuPont, J.N. 1341-1356A
Durrant, G. 993-1001B
Dutrizac, J.E. 1193-1202A
107-117B
1613-1623A
1625-1633A
1315-1326A
1223-1233A
1877-1880A
363-369A
1727-1738A
231-233A
2689-2699A
1517-1527A
Enomoto, M. 2429-2437A
3125-3130A
Eric, R.H. 231-239B
589-595B
695-705B
707-714B
2539-2545A
3143-3151A
Evangelista, E. 2591-2598A
Evans, A.G. 763-769A
Evans, J.W. 331-339B
623-630B
Fahmy, Y. 2809-2816A
2817-2823A
791-801B
Fan, H.G. 3079-3088A
Fan, J. 271-277B
Fan, P. 3099-3102A
643-651A
941-948A
1933-1943A
Fang, D.-N. 3231-3238A
Fang, Z. 1727-1738A
Farber, L. 1809-1815A
Fear, D.R. 2853-2863A
Feaugas, X. 213-219A
Feng, S.P. 1169-1176A
Ferro, R. 2583-2590A
Fischer, F.D. 133-146A
Fleury, E. 2959-2965A
Foecke, T. 1541-1547A
Fradkov, V.E. 857-863B
Frage, N. 3201-3210A
927-932B
Fras, E. 1301-1313A
Frear, D.R. 323-330B
Fredman, T.P. 1425-1435A
Frey, N.D. 751-761A
Froes, F.H. 1017-1024A
29-43B
Fruehan, R.J. 945-956B
Fu, H. 2843-2852A
Fujita, T. 2713-2720A
Fujiwara, C. 653-666A
3019-3024A
Fujiwara, H. 419-427B
Fukui, Y. 3253-3261A
Fukunaka, Y. 99-105B
779-790B
653-666A
Fukushima, A. 3019-3024A
1971-1979A
Fukuyama, H. 3031-3044A
Furdanowicz, V. 1989-1997A
Furukawa, M. 383-391B
Gaballah, I. 567-576B
577-587B
1009-1015B
2723-2726A
3111-3124A
Gall, K. 3079-3088A
Gandini, C.A. 3153-3165A
Gao, J. 771-776A
Gao, M. 2297-2303A
Gao, Z.Y. 2701-2712A
Garg, A. 587-600A
Gatica, J.E. 175-181A
933-944B
65-79A
Gaudett, M.A. 763-769A
Gaudette, F. 2959-2965A
Gavens, A.J. 825-828A
Ge, C.C. 697-705A
Ge, S.P. 2931-2939A
Geist, D.E.

- Gejima, F. 2721-2723A
Gell, M. 427-435A
Gemelli, E. 3263-3265A
German, R.M. 465-470A
2201-2208A
2209-2220A
3211-3217A
Ghosh, A.K. 1411-1424A
Ghosh, G. 5-18A
501-512A
1481-1494A
Gialanella, S. 2019-2026A
Gibala, R. 991-1001A
1003-1015A
Gilbert, C.J. 1739-1753A
Gilbert, M. 67-74B
Glazov, M.V. 387-397A
Glicksman, M.E. 1541-1547A
2605-2610A
3177-3190A
Gobin, D. 613-622B
1107B
Goetz, R.L. 1411-1424A
Goforth, R.E. 1425-1435A
Gokhale, A.M. 2369-2381A
Goldstein, D.A. 945-956B
Gopalakrishnan, N. 1047-1051A
Goto, D.M. 2835-2842A
Govindarajan, S. 799-806A
Goyeau, B. 613-622B
1107B
Gray, G.T., III 1235-1247A
Greene, C.A. 1675-1679A
Gregorutti, R. 2745-2752A
Gremaud, M. 449-455A
Griffiths, J.R. 2611-2618A
Griffiths, W.D. 473-482B
Griffo, A. 3231-3238A
Grong, O. 1053-1068A
1069-1079A
2667-2677A
2915-2929A
1027-1032B
Gruzleski, J.E. 1357-1366A
Gu, J.P. 685-688B
Gu, S.R. 685-688B
Gu, X.M. 2629-2639A
Gu, Y.F. 513-520A
Guan, H.R. 2251-2254A
2229-2235A
Guan, Q. 1913-1921A
Guillemany, J.M. 1053-1068A
Jundersen, O. 1069-1079A
Guo, S.Q. 221-229A
653-666A
3019-3024A
Guo, X. 2843-2852A
Guo, Z. 2229-2235A
Gupta, A.K. 879-884A
Gupta, C.K. 205-213B
Gupta, V.V. 527-539B
Guthrie, R.I.L. 349-352B
541-543B
891-900B
Haarberg, T. 341-348B
Hack, J.E. 155-159A
Hajra, J.P. 429-433B
Hall, J.A. 287-299A
2383-2389A
Hamano, T. 827-829B
Han, B.Q. 829-838A
Han, F. 771-776A
Han, J.W. 215-221B
Han, Q. 745-750B
Han, S.Z. 2649-2657A
Han, Y.F. 884-887A
Handle, B. 5-13B
Harada, H. 2629-2639A
Harada, T.N. 403-410B
Härikki, K. 75-98B
Harmon, D. 255-266A
287-299A
Hashimoto, T. 3125-3130A
Hayashi, A. 53-59B
Hayashi, H. 623-630B
Hayes, P.C. 21-27B
597-605B
1017-1026B
Haynes, J.A. 2679-2687A
Helbert, A.L. 2853-2863A
Hemmer, H. 2915-2929A
Herlach, D.M. 3011-3016A
Hersman, L. 2129-2134A
Higashida, K. 1185-1191A
Higuchi, K.-I. 671-683B
Hillert, M. 1635-1641A
Hilpert, K. 1315-1326A
Hino, M. 671-683B
Hirao, K. 3009-3011A
Hirose, A. 2115-2120A
Hisayuki, K. 3009-3011A
Hofmeister, W. 1675A
Hoglund, L. 1635-1641A
Hojo, M. 2713-2720A
Holden, T.M. 1797-1808A
Holz, R. 1047-1051A
Hong, J.H. 887-890A
Hong, K.T. 3265A
Hong, L. 1003-1008B
Hong, M.-H. 627-632A
Hong, M.H. 717-727A
Hono, K. 345-353A
717-727A
Horita, Z. 1989-1997A
Horstemeyer, M. 3079-3088A
Houwer, I. 1275-1282A
Hsieh, S.H. 437-448A
Hsu, Y.F. 729-739A
Hu, G.-X. 2297-2303A
Hu, H. 1679-1682A
Hu, H.M. 1381-1389A
Hu, J. 2229-2235A
Hu, Z. 1755-1761A
Hu, Z.Q. 513-520A
2251-2254A
Huang, C.C. 643-651A
Huang, J.C. 53-64A
Huang, X. 1755-1761A
Hultgren, C.A. 1675-1679A
Hunziker, O. 3167-3175A
Husain, S.W. 1529-1534A
Hussain, K. 670-675A
Hwang, K.-C. 1933-1943A
Hytros, M.M. 1403-1409A
Iaccoca, R.G. 2201-2208A
Ichise, E. 419-427B
Iguchi, M. 53-59B
61-66B
631-637B
Ilischner, B. 981-989A
Inal, M.Y. 2191-2199A
Inoue, T. 2713-2720A
Inoue, G.A. 241-247B
Isaak, D.G. 2403-2408A
Ishida, K. 2721-2723A
Ito, K. 143-144B
827-829B
741-749A
Ito, S. 865-871B
Iyengar, G.N.K. 839-844A
Izawa, N. 2835-2842A
Jabloukov, V. 521-533A
Jackson, M.P. 865-871B
Jacob, K.T. 21-27B
Jak, E. 597-605B
1017-1026B
2905-2913A
Jansen, A.M. 829-838A
Jasiuk, I. 195-201A
Jayakumar, T. 2067-2072A
Jena, P.K. 375-381B
Jensen, E.K. 2135-2146A
Jerina, K.L. 255-266A
Jiang, M.-F. 451-457B
Jiang, W.H. 513-520A
513-520A
2251-2254A
2251-2254A
451-457B
1785-1795A
2735-2744A
2429-2437A
3125-3130A
3045-3054A
3055-3068A
799-985B
427-435A
Jorgensen, F.R.A. 393-401B
Juhl, T.W. 1817-1826A
Jun, J.-H. 667-670A
Jung, H.K. 2967-2977A
Jung, S.-W. 2027-2035A
Jung, Y.C. 2649-2657A
Jureidini, I.M. 1403-1409A
Kagawa, Y. 221-229A
653-666A
3019-3024A
Kageyama, R. 331-339B
Kailasam, S.K. 1541-1547A
2605-2610A
2721-2723A
Kainuma, R. 1249-1259A
Kakehi, K. 1223-1233A
Kalidindi, S.R. 383-391B
Kalyanasundaram, P. 567-576B
Kanari, N. 577-587B
1009-1015B
Kang, C.G. 2967-2977A
Kang, S.-B. 2523-2538A
Kang, S.-J.L. 2027-2035A
Kang, S.Y. 81-92A
Kaptay, G. 1887-1894A
Karasev, A. 249-257B
259-270B
1341-1356A
Karnezis, P.A. 981-989A
Kassner, M.E. 777-779A
2383-2389A
Katayama, Y. 345-353A
Kath, D. 1315-1326A
Kato, E. 2449-2453A
Katsumata, A. 671-683B
Kattamis, T.Z. 1119-1136A
Kawabatra, H. 53-59B
Kawamoto, M. 53-59B
Ke, T.S. 2267-2295A
Kecskes, L.J. 2483-2489A
Khan, A.Q. 670-675A
Khan, T.I. 1597-1603A
Kharin, V. 1882-1885A
Khodadadi, J.M. 957-967B
Kim, C.-U. 1503-1515A
Kim, C.J. 2649-2657A
Kim, D.-K. 81-92A
1261-1273A
2027-2035A
627-632A
1495-1501A
361-367B
369-373B
Kim, E.-P. 2254-2258A
Kim, J.H. 435-442B
Kim, J.K. 807-813A
Kim, N.J. 2097-2102A
Kim, S.-H. 2254-2258A
Kim, S.G. 2649-2657A
Kim, S.S. 807-813A
Kim, W.T. 961-968A
Kim, W.W. 587-600A
Kitabjan, P.H. 419-427B
Kitou, M. 123-132A
Kiviahiti, J. 2667-2677A
Kluken, A.O. 1597-1603A
Kmecko, I. 949-959A
Knaul, D.A. 107-117B
Knorovsky, G.A. 2115-2120A
Kobayashi, K.F. 2783-2789A
Kobayashi, S. 352-354B
Kobayashi, Y. 2641-2648A
Koeppel, B.J. 15-20B
Kojima, T. 2429-2437A
Kokawa, H. 3125-3130A
505-513B
Kolenda, Z. 671-683B
Kon-No, N. 431-450B
Kongoli, F. 831B
Konishi, Y. 99-105B
779-790B
Konitzer, D.G. 1025-1038A
Kosaka, H. 53-59B
Kosaka, Y. 2383-2389A
Koss, D.A. 2835-2842A
Koss, M.B. 3177-3190A
Kosyakov, V.I. 715-722B
Koul, A.K. 1039-1045A
Kovacevic, R. 791-801B
1597-1603A
Koyama, T. 2783-2789A
Kozeschnik, E. 1663-1673A
2575-2582A
1605-1612A
Kudoh, M. 2391-2401A
Kuhlmann-Wilsdorf, D. 2491-2501A
3265A
Kulkarni, N. 2491-2501A
Kulkarni, S.S. 2491-2501A
Kumagai, T. 3089-3097A
Kumar, L. 41-52A
Kuo, K.H. 697-705A
Kuramasu, Y. 839-844A
Kuribayashi, K. 99-105B
779-790B
1333-1339A
Kurosawa, N. 2115-2120A
Kurz, W. 3167-3175A
Kusabiraki, K. 1923-1931A
2843-2852A
789-798A
Kutumba Rao, V.V. 483-485A
Kuze, T. 2999-3007A
Kwon, H. 377-386A
Kwon, J.W. 1211-1221A
Kwon, S.-J. 3131-3141A
887-890A
Kwon, S.C. 2037-2047A
Kwon, Y.N. 681-695A
L'Espérance, G. 1597-1603A
Labudovic, M. 2605-2610A
Lacombe, J.C. 3177-3190A
Lal, A. 2201-2208A
Lan, X.K. 957-967B
Laner, K. 2745-2752A
Langdon, T.G. 315-324A
1989-1997A
2059-2066A
2135-2146A
Langsrud, Y. 1403-1409A
Lanza, R.C. 1137-1146A
Laplante, S. 2049-2058A
Larouk, Z. 287-299A
Larsen, J.M. 307-321B
Larsen, H.R. 2551-2555A
Lau, K.C. 527-539B
Lavernia, E.J. 1381-1389A
1679-1682A
93-114A
Leap, M.J. 1579-1596A
Lebo, M.R. 203-212A
Ledbetter, H. 1503-1515A
Lee, B.-J. 887-890A
Lee, B.S. 234-243A
Lee, C.G. 437-448A
Lee, H.B. 399-409A
Lee, H.C. 1503-1515A
Lee, H.M. 2523-2538A
Lee, J.-M. 807-813A
Lee, J.S. 2999-3007A
Lee, K.B. 81-92A
Lee, K.J. 961-968A
Lee, M.K. 81-92A
Lee, S. 234-243A
399-409A
1211-1221A
1261-1273A
2027-2035A
3131-3141A
3143-3151A
961-968A
Lee, W.J. 2679-2687A
Lee, W.Y. 2325-2330A
Lee, Y.-K. 2331-2339A
Lee, Y.S. 1679-1682A
Lee, Z.H. 387-397A
Lege, D.J. 1137-1146A
Legros, N. 2885-2893A
Leng, Y. 2895-2904A
1559-1568A
Lesuer, D.R. 2713-2720A
Leucht, R. 2439-2447A
Levashov, E.A. 1763-1774A
Levin, B.F. 3201-3210A
325-334A
Lexa, D. 147-153A
Li, B.-Y. 2753-2756A
Li, B.J. 917-923A
Li, C. 1017-1024A
Li, D. 3011-3016A
Li, H.J. 213-219A
Li, J.T. 825-828A
Li, L.-F. 451-457B
Li, M. 2941-2949A
Li, Q. 1147-1157A
1153-1157A
Li, T.X. 2979-2988A
Li, Y. 315-324A
495-504B
2059-2066A
Li, Y.-Y. 2753-2756A

Li, Z.	203-212A	Medrano, A.M.	1177-1184A	Okamoto, T.	2463-2472A	Rhu, J.C.	2649-2657A
Liang, K.M.	2757-2766A	Meier, G.H.	2905-2913A	Okumura, K.	483-485A	Rice-Evans, P.C.	2931-2939A
Liaw, P.K.	685-688B	Menad, N.	567-576B	Oliver, W.C.	1003-1008B	Richards, N.L.	1717-1726A
Lin, C.S.	1449-1452A	Meng, G.W.	213-219A	Olson, G.B.	601-610A	Richmond, O.	387-397A
Lin, G.	1569-1578A	Mercader, R.C.	2745-2752A	Ono, K.	501-512A	Riemedmoser, F.O.	1452-1459A
Lin, J.-H.	437-448A	Mercer, C.	1025-1038A	Onodera, R.	403-410B	Ritchie, R.O.	563-577A
Lin, S.-J.	3239-3251A	Messler, R.W., Jr.	115-122A	Onsöien, M.I.	1185-1191A		633-642A
Liu, C.	1119-1136A	Meyer-Obersleben, F.	981-989A	Oren, E.E.	1053-1068A	Riveros, P.A.	1739-1753A
Liu, C.T.	1119-1136A		981-989A	Orrü, R.	1069-1079A	Ro, Y.	993-1001B
Liu, J.	771-776A	Michaud, V.J.	471-482A	Osiyemi, S.O.	1089-1093B	Roatta, A.	2629-2639A
Liu, L.	1449-1452A	Miehe, G.	2121-2127A	Oveçoglu, M.L.	1101-1108A	Roberts, S.M.	2875-2884A
Liu, N.	2209-2220A	Miettinen, J.	75-98B	Ovejero, E.	1867-1876A	Robino, C.V.	1797-1808A
Liu, T.F.	3211-3217A	Miguel, J.R.	1913-1921A	Ozaki, T.	751-761A	Rodriguez, A.S.	107-117B
Liu, W.	1097-1100A	Miki, Y.	639-654B	Oztürk, B.	1882-1885A	Rohatgi, P.K.	1177-1184A
Liu, W.C.	21-27B	Milke, J.G.	949-959A	Pabi, S.K.	45-51B	Rogez, J.	67-74B
Liu, Y.	1705-1716A	Mills, W.J.	1579-1596A	Page, T.F.	29-43B	Rong, L.-J.	361-367B
Liu, Y.-F.	685-688B	Min, D.J.	215-221B	Pal, U.	2563-2573A	Rong, Y.	369-373B
Liu, Z.	31-40A		689-694B	Pal, U.B.	2931-2939A	Ruano, O.A.	2753-2756A
Llorca, J.	1275-1282A	Minamino, Y.	1045-1052B	Papamantellos, K.	295-306B	Rusten, T.	2297-2303A
	221-229A	Miracle, D.B.	3009-3011A	Pape, J.A.	307-321B	Saccone, A.	371-376A
	2757-2766A		301-306A	Paramguru, R.K.	515-525B	Sachdev, A.K.	135-142B
	1081-1095A		2305-2323A	Park, J.H.	877-889B		1169-1176A
	845-855A	Mirshams, R.A.	2349-2367A	Park, J.W.	2619-2627A	Sai, P.S.T.	815-824A
	857-867A	Mishra, K.G.	2803-2808A	Parrini, L.	1289-1300A	Saji, S.	1835-1841A
	869-878A	Misra, A.	223-229B	Paschen, P.	223-229B	Saka, N.	969-977B
	879-884A		991-1001A	Patel, A.M.	689-694B	Sakata, K.	1923-1931A
	3231-3238A	Mittin, D.	1003-1015A	Patt, W.	1045-1052B	Salas, D.	1403-1409A
	611-620A	Mittermeier, E.J.	115-122A	Paul, V.T.	399-409A	Salvi, R.	1053-1063B
	927-932B	Miura, H.	1945-1953A	Pedersen, A.S.	2865-2873A	Sangsuwan, P.	2539-2545A
	2419-2428A	Miyazaki, S.	483-485A	Pekelharing, M.I.	5-13B	Sano, M.	335-343A
	1047-1051A	Miyazaki, T.	1275-1282A	Pelton, A.D.	1289-1300A		933-944B
	2619-2627A	Mizukami, H.	2783-2789A		2147-2158A		631-637B
	325-334A	Mo, A.	53-59B		161-174A		1003-1008B
	1097-1100A	Mo, C.M.	135-142B		1817-1826A		15-20B
	1933-1943A	Mohandas, T.	2455-2462A		1945-1953A		197-203B
	1785-1795A	Mojica, J.F.	213-219A		443-450B		2523-2538A
	2735-2744A	Montero-Ocampo, C.	789-798A		661-669B		161-174A
	2167-2171A	Monzen, R.	773-778B		831B		2825-2834A
	601-610A	Moon, I.-H.	611-620A		1033-1044B		457-463A
	1549-1558A	Moore, J.J.	483-485A		2503-2512A		2745-2752A
	1775-1784A		627-632A		287-299A		2791-2801A
	2258-2260A		799-806A		2931-2939A		2429-2437A
	457-463A		2439-2447A		695-705B		3125-3130A
	1682-1685A		2491-2501A		2905-2913A		323-330B
	2989-2997A		2067-2072A		1203-1209A		1643-1650A
	2753-2756A		279-286B		1449-1452A		1651-1655A
	841-856B		29-43B		2049-2058A		1657-1662A
	2325-2330A		471-482A		2679-2687A		1682-1685A
	1283-1288A		1843-1866A		1452-1459A		457-463A
	551-561A		119-133B		823-826B		1635-1641A
	1147-1151A		670-675A		1663-1673A		2121-2127A
	1153-1157A		1065-1074B		2173-2181A		2121-2127A
	3103-3110A		1693-1704A		2659-2666A		307-321E
	1169-1176A		41-52A		845-855A		1739-1753A
	45-51B		1101-1108A		857-867A		2409-2418A
	921-925B		345-353A		869-878A		157-170B
	3069-3078A		2951-2958A		41-52A		895-908A
	19-29A		2667-2677A		2547-2549A		411-418B
	1327-1331A		161-174A		2403-2408A		655-660B
	133-146A		521-533A		2931-2939A		65-79A
	2147-2158A		2221-2228A		1817-1826A		901-908B
	15-20B		15-20B		1529-1534A		909-920B
	197-203B		459-464B		213-219A		1411-1424A
	277-286A		671-683B		1097-1100A		2305-2323A
	301-306A		1971-1979A		613-622B		1425-1435A
	2305-2323A		781-788A		1107B		133-146A
	1535-1540A		99-105B		115-122A		171-188B
	827-829B		741-749A		161-174A		1391-1402A
	307-313A		631-637B		2067-2072A		1411-1424A
	2767-2781A		3089-3097A		969-977B		1425-1435A
	1541-1547A		3009-3011A		2237-2248A		2473-2481A
	2563-2573A		393-401B		2803-2808A		3219-3229A
	2825-2834A		887-890A		2103-2113A		751-761A
	1763-1774A		1083-1088B		2249-2251A		457-463A
	2419-2428A		1989-1997A		2825-2834A		1885-1887A
	267-275A		1289-1300A		459-464B		2885-2893A
	969-979A		2455-2462A		495-504B		2895-2904A
	221-229A		839-844A		449-455A		3031-3044A
	67-74B		587-600A		3153-3165A		1109-1117A
	2931-2939A		587-600A		1193-1202A		2549-2551A
	419-427B		1003-1015A		459-464B		1411-1424A
	197-203B		2027-2035A		521-533A		3219-3229A
	403-410B		707-716A		1797-1808A		2229-2235A
	1605-1612A		909-920B		123-132A		979-985B
	143-144B		2159-2165A		2583-2590A		1559-1568A
	827-829B		2713-2720A		1109-1117A		715-722B
	349-352B		377-386A		607-611B		2439-2447A
	541-543B		234-243A		2167-2171A		1775-1784A
	891-900B		887-890A		2463-2472A		279-286B
	2951-2958A		741-749A		717-727A		621-626A
	1569-1578A		1605-1612A		961-968A		2767-2781A
	3079-3088A		2167-2171A		1503-1515A		175-181A
							3143-3151A

Shin, K.S.	2097-2102A 2254-2258A	Tacke, K.-H.	751-761B 763-772B	Van Sandwijk, A.	607-611B 2539-2545A	Xu, Q.	527-539B 1717-1726A
Shoales, G.A.	465-470A	Takamura, Y.	1333-1339A	Varma, S.K.	355-362A	Xu, S.	1039-1045A
Shtansky, D.V.	2439-2447A	Takeda, T.	411-416A	Vecchio, K.S.	1235-1247A	Xu, Y.	2723-2726A
Shu, D.	2979-2988A		3069-3078A		1763-1774A	Xu, Z.	189-195B
Sichen, D.	909-920B	Talamantes, J.	773-778B	Velasco, E.	773-778B	Yamabe-Mitarai, Y.	2629-2639A
Sikka, V.K.	335-343A	Talavera, M.	611-620A	Venkatachalam, S.	205-213B	Yamaguchi, K.	671-683B
Simon, D.	515-525B	Tamura, M.	873-875B	Venkateswara Rao, K.T.		Yamaguchi, T.	143-144B
Singh, M.	933-944B	Tanaka, Y.	221-229A		563-577A	Yamanaka, N.	3253-3261A
Singh, N.	2547-2549A	Tang, N.Y.	144-148B	Viadya, R.U.	633-642A	Yamane, T.	3009-3011A
Singh, V.	2547-2549A	Tarui, T.	717-727A	Vijayalakshmi, M.	2129-2134A	Yamaoka, H.	2115-2120A
Sinyakova, E.F.	715-722B	Tas, A.C.	1089-1093B	Viswanathan, S.	161-174A	Yamasue, E.	1971-1979A
Sivashanker, S.	1867-1876A	Tatemichi, H.	61-66B	Voller, V.R.	745-750B	Yang, G.	2941-2949A
Skaland, T.	1053-1068A 1069-1079A	Tauqir, A.	670-675A	Von Grossmann, B.	2183-2189A	Yang, H.	2403-2408A
Smith, T.J.	133-146A	Taylor, J.	2931-2939A	Voorhees, P.W.	3016-3019A	Yang, H.T.Y.	815-822B
Snyder, V.A.	2341-2348A	Taylor, J.A.	1643-1650A		1880-1882A	Yang, N.	3079-3088A
Soboyejo, W.	495-504B		1651-1655A	Wadley, H.N.G.	1955-1969A	Yang, S.	2369-2381A
Soboyejo, W.O.	1025-1038A	Tennenhouse, L.A.	1657-1662A	Wagoner, R.H.	2341-2348A	Yang, Z.	483-493B
Sohn, Y.H.	535-543A		3177-3190A	Wall, M.A.	2689-2699A		1109-1117A
Soltani-Farshi, M.	53-59B	Tewari, S.N.	175-181A	Wang, J.	2073-2087A	Yao, M.	31-40A
Somers, M.A.J.	1945-1953A		933-944B	Wang, Q.G.	777-779A	Yao, X.D.	513-520A
Sommer, J.L.	471-482A		2159-2165A	Wang, W.	2979-2988A	Yazawa, A.	393-401B
Song, B.	435-442B		2167-2171A	Wang, W.-Z.	2611-2618A	Ye, F.	1025-1038A
Song, H.-S.	1261-1273A	Thadhani, N.N.	2463-2472A	Wang, W.H.	271-277B	Yeh, J.-W.	2503-2512A
Soral, P.	307-321B	Thevik, H.	1367-1379A	Warner, S.G.	451-457B	Yokokawa, T.	2629-2639A
Snsukhumbowom-chai, N.	751-761A	Thevik, H.J.	2455-2462A		267-275A	Yonezawa, K.	411-418B
Srivatsan, T.S.	1025-1038A		135-142B	Wasai, K.	277-286A	Yoon, S.W.	655-660B
St.John, D.	1613-1623A	Thevoz, P.	287-293B	Watanabe, T.	1065-1074B	Yu, J.	1503-1515A
	1625-1633A	Thomas, B.G.	3153-3165A	Watanabe, Y.	621-626A	Yu, L.	2331-2339A
St.John, D.H.	287-293B	Thompson, R.B.	639-654B	Wayman, C.M.	3253-3261A	Yuan, S.-Y.	2463-2472A
	1643-1650A	Thonstad, J.	1981-1988A	Weatherly, G.C.	729-739A	Zeng, S.	2503-2512A
	1651-1655A	Tian, C.	341-348B	Wei, R.P.	19-29A		1147-1151A
	1657-1662A		241-247B	Weihls, T.P.	2297-2303A		1153-1157A
Starke, E.A., Jr.	2491-2501A	Tjong, S.C.	891-900B	Welham, N.J.	2959-2965A	Zhang, B.	2659-2666A
Stephens, J.J.	1301-1313A		243-248A	Wen, X.	1075-1081B	Zhang, E.	1147-1151A
Stone, H.J.	1797-1808A	Todaka, H.	2551-2555A	Wen, Y.H.	2723-2726A		1153-1157A
Straffelini, G.	2019-2026A	Tokunaga, H.	2115-2120A	Werner, E.A.	2583-2590A	Zhang, J.M.	2701-2712A
Strangwood, M.	2089-2096A		61-66B	Wert, J.A.	2583-2590A	Zhang, L.D.	213-219A
Strutt, A.J.	355-362A	Tokunaga, T.	873-875B	White, D.R.	1283-1288A		1097-1100A
Subhash, G.	2641-2648A	Tomii, Y.	99-105B	Whittenberger, J.D.	1679-1682A	Zhang, L.P.	2089-2096A
Sueoka, N.	1605-1612A	Toribio, J.	1882-1885A	Wiggett, S.M.	1559-1568A	Zhang, S.Y.	213-219A
Suito, H.	249-257B	Torrkulla, J.	323-330B	Wilkinson, D.S.	589-595B	Zhang, T.-Y.	155-159A
	259-270B	Tortorici, P.C.	545-550A	Williams, J.S.	241-247B	Zhang, W.J.	2591-2598A
	1053-1063B	Tromborg, E.	2135-2146A	Wingert, J.C.	1075-1081B	Zhang, X.	1827-1833A
Sumino, K.	1465-1479A	Tsai, C.H.	417-426A	Winsa, E.A.	93-114A	Zhang, Y.	1755-1761A
Sumiyama, K.	1877-1880A	Tsujino, R.	631-637B	Withers, P.J.	3177-3190A	Zhao, B.	2679-2687A
Sun, B.D.	2979-2988A	Tsukamoto, S.	1827-1833A	Wittkowsky, B.	1797-1808A		21-27B
Sun, H.	279-286B	Tsukihashi, F.	352-354B	Wolfsdorf-Brenner, T.L.	1203-1209A		597-605B
Sun, J.	2843-2852A	Tsutsumi, T.	1923-1931A	Woodard, P.R.	1955-1969A		1017-1026B
Sun, L.	2549-2551A	Tszeng, T.C.	1159-1162A	Woolley, D.E.	815-822B	Zhao, C.	2599-2604A
Sun, Z.	2757-2766A	Turenne, S.	1137-1146A	Wright, B.L.	877-889B	Zhao, J.-C.	707-716A
Sundaraman, M.	41-52A	Turner, P.A.	2875-2884A	Wright, I.G.	957-967B	Zhao, X.Q.	884-887A
Sung, P.K.	2173-2181A	Uan, J.Y.	2258-2260A	Wu, S.Q.	2679-2687A	Zheng, Y.K.	685-688B
Suresh, S.	763-769A	Ueda, S.	921-925B		243-248A	Zhong, Z.Y.	2701-2712A
Suryanarayana, C.	799-806A	Ul Haq, A.	670-675A	Wu, W.	2551-2555A	Zhou, Y.	2941-2949A
Susa, M.	1971-1979A	Umezawa, O.	2221-2228A	Wu, X.-J.	417-426A	Zhou, Y.H.	2979-2988A
Sutliff, J.	1955-1969A	Upadhyaya, A.	2209-2220A	Wu, Y.	1039-1045A	Zhu, H.G.	243-248A
Sutou, Y.	2721-2723A	Vaidyanathan, K.	427-435A	Wu, Y.-L.	1381-1389A	Zhu, J.H.	1449-1452A
Suzuki, K.	1877-1880A	Vaidyanathan, S.	2067-2072A	Xiang, H.	1017-1024A		1569-1578A
Suzuki, R.O.	403-410B	Vajjo, J.J.	2931-2939A	Xiao, X.	1275-1282A		771-776A
Suzuki, T.	807-813A	Valierrra, S.	773-778B	Xie, D.	901-908B	Zhu, Z.	2701-2712A
Swinbourne, D.R.	589-595B	Van Dyk, J.P.	823-826B	Xie, X.	465-472B	Zhuang, J.Y.	1663-1673A
Syn, C.K.	1559-1568A	Van Heerden, D.	2959-2965A	Xin, X.J.	1109-1117A	Zoric, J.	341-348B
		Van Humbeeck, J.	493-499A		2073-2087A		

Combined Subject Index

- Abrasion resistance, Heating effects**
Evaluation of halide-activated pack boriding of Inconel 722. 670-675A
- Absorption (material), Heating effects**
The effect of ion implanting on hydrogen entry into metals. 1535-1540A
- Accuracy**
Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model. 1095-1105B
Cavitation and failure during hot forging of Ti-6Al-4V. 1411-1424A
Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2513-2522A
- Acicular structure**
Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V. 3219-3229A
- Activated sintering**
Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering. 1605-1612A
- Activation energy**
Studies on the chlorination of zircon. I. Static bed investigations. Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations. 205-213B
Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 223-229B
1885-1887A
- Adhesion**
Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
- Aging (artificial)**
Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C. 345-353A
Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A
Aging behavior of an Al-Li-Cu-Mg-Zr alloy. 741-749A
Study of precipitation kinetics in a super purity Al-0.8% Mg-0.9% Si alloy using differential scanning calorimetry. 879-884A
Phase transformation of Zn-4Al-3Cu alloy during heat treatment. 917-923A
Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy. 1177-1184A
Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
Development of a heat treatment for a directionally solidified cobalt-base superalloy. 2251-2254A
The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys. 2649-2657A
Mechanism of the formation of lamellar $M_{23}C_6$ at and near twin boundaries in austenitic stainless steels. 2791-2801A
Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel. 2825-2834A
- Aging (artificial), Composition effects**
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A
- Aging (artificial), Welding effects**
Precipitation sequence in friction stir weld of 6063 aluminum during aging. 3125-3130A
- Aging (natural)**
A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A
- Air pollution**
Greenhouse gases and the metallurgical process industry. 841-856B
- Aircraft components, Coating**
Mathematical modeling of a melt pool driven by an electron beam. 515-525B
- Allotropic transformation, Heating effects**
The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A
- Alloy plating**
Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
- Alpha iron, Microstructure**
Fifty-year study of grain-boundary relaxation. 2267-2295A
- Aluminides, Bonding**
Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb. 2723-2726A
Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system. 3111-3124A
- Aluminides, Coatings**
Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering. 1605-1612A
Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A
- Aluminides, Composite materials**
Wear behavior of in situ Al-based composites containing TiB₂, Al₂O₃, and Al₃Ti particles. 243-248A
Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
Degradation mechanism of SiC/super α_2 composite due to interfacial reaction. 2713-2720A
Wear behavior of Al-Al₃Ti composite manufactured by a centrifugal method. 3253-3261A
- Aluminides, Directional solidification**
Directional solidification and phase equilibria in the Ni-Al system. 3167-3175A
- Aluminides, Heat treatment**
The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A
- Aluminides, Mechanical properties**
Cavitation erosion of NiAl. 335-343A
The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics. 563-577A
High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals. 587-600A
Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 949-959A
Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy. 1003-1015A
Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A
Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. Temperature and composition dependence of the elastic constants of Ni₃Al. 2349-2367A
Influence of the temperature on the plastic deformation in TiAl. 2403-2408A
Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 2865-2873A
3089-3097A
- Aluminides, Melting**
Discussion of "Superheating behavior of NiAl". 1675A
- Aluminides, Oxidation**
Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings. 495-504B
- Aluminides, Phase transformations**
The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field. 2591-2598A
Magnetic transformation of Ni₂AlMn Heusler-type shape memory alloys. 2721-2723A
- Aluminides, Powder technology**
Microprecipitation synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 751-761A
Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 781-788A
Field-activated combustion synthesis of titanium aluminides. 1101-1108A
- Aluminides, Welding**
The role of phase transformation in electron-beam welding of TiAl-based alloys. 1717-1726A
- Aluminum, Alloying additive**
Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A
The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy. 2007-2018A
- Aluminum, Alloying elements**
Characteristics of continuous-galvanizing baths. 144-148B
Liquid-solid partition ratios in nickel-base alloys. 2173-2181A

- Aluminum, Binary systems**
Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed. 1877-1880A
The influence of temperature gradients on Ostwald ripening. A numerical model of peritectoid transformation. 2341-2348A
Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2563-2573A
Directional solidification and phase equilibria in the Ni-Al system. 2783-2789A
3167-3175A
- Aluminum, Bonding**
The influence of solid-state and liquid-phase bonding on fatigue at Al/Al_2O_3 interfaces. 763-769A
- Aluminum, Casting**
A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. 119-133B
A mathematical model for surface segregation in aluminum direct chill casting. 135-142B
High-energy x-ray computed tomography of the progression of the solidification front in pure aluminum. 1403-1409A
Study of electromagnetic separation of nonmetallic inclusions from aluminum melt. 2979-2988A
- Aluminum, Chemical analysis**
Distribution of aluminum in hot-dip galvanized coatings. 3031-3044A
- Aluminum, Composite materials**
Thermal expansion of morphologically textured short-fiber composites. 203-212A
Settling of multisized clusters of alumina particulates in liquid aluminum. 241-247B
Wear behavior of in situ Al-based composites containing TiB_2 , Al_2O_3 , and Al_3Ti particles. 243-248A
Infiltration of fibrous preforms by a pure metal. V. Influence of preform compressibility. 471-482A
Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state. 1137-1146A
A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model. 1147-1151A
A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1153-1157A
Plasticity of continuous fiber-reinforced metals. 1843-1866A
Discussion of "Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply. 1887-1894A
Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites. 2875-2884A
Modeling of composite growth in the directed aluminum melt nitridation process. 2951-2958A
Wear behavior of Al- Al_3Ti composite manufactured by a centrifugal method. 3253-3261A
- Aluminum, Crystal growth**
The Alstruc microstructure solidification model for industrial aluminum alloys. 2135-2146A
- Aluminum, Diffusion**
A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A
- Aluminum, Extraction**
The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. 341-348B
- Aluminum, Mechanical properties**
Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights. 777-779A
- Aluminum, Microstructure**
Influence of pressing speed on microstructural development in equal-channel angular pressing. 1989-1997A
Fifty-year study of grain-boundary relaxation. 2267-2295A
Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observations. 2491-2501A
- Aluminum, Physical properties**
Damping behavior of foamed aluminum. 771-776A
The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres. 1027-1032B
- Aluminum, Powder technology**
Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 781-788A
- Aluminum, Reactions (chemical)**
Nonisothermal gravimetric investigation on kinetics of reduction of magnesium by aluminum. 1003-1008B
- Aluminum, Recovering**
Recycling of aluminum matrix composites. 839-844A
- Aluminum, Refining**
Analyses of the dynamic processes of liquid metal filtration. 891-900B
- Aluminum, Ternary systems**
Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1785-1795A
- Aluminum base alloys, Casting**
Modeling the fluid-flow-induced stress and collapse in a dendritic network. 287-293B
The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. 473-482B
Casting-chill interface heat transfer during solidification of an aluminum alloy. 773-778B
The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A
- Aluminum base alloys, Coating**
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061. 2191-2199A
- Aluminum base alloys, Composite materials**
The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
Fundamental aspects of creep in metal matrix composites. 315-324A
Synergistic effects of wear and corrosion for Al_2O_3 particulate-reinforced 6061 aluminum matrix composites. 643-651A
Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum. 815-824A
Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum. 829-838A
Recycling of aluminum matrix composites. 839-844A
Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation. 845-855A
Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 857-867A
Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 869-878A
The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments. 1835-1841A
Plasticity of continuous fiber-reinforced metals. 1843-1866A
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite. 2539-2545A
Wear of Al-based hybrid composites containing BN and SiC particulates. 2551-2555A
Fabrication and characteristics of AA6061/ Si_3N_4 composite by the pressureless infiltration technique. 2999-3007A
Wear behavior of Al- Al_3Ti composite manufactured by a centrifugal method. 3253-3261A
- Aluminum base alloys, Crystal growth**
Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. 505-513B
Measurement of liquid permeability in the mushy zones of aluminum-copper alloys. 745-750B
Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures. 2455-2462A
- Aluminum base alloys, Extrusion**
Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A
- Aluminum base alloys, Heat treatment**
The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A
- Aluminum base alloys, Mechanical properties**
Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation. 53-64A
Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. 371-376A
A new hot-tearing criterion. 449-455A
Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy. 887-890A
Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A
Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates. 1283-1288A
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A
The effect of grain size and temperature on the superplastic deformation behavior of a 7075 Al alloy. 2037-2047A

- Closure-affected fatigue crack propagation behaviors of powder metallurgy-processed Al-Li alloys in various environments. 2097-2102A
- Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-Zr alloys at 293 and 77K. 2254-2258A
- Influence of calcium addition on the superplastic-like behavior of extruded Al-Al₃Ni eutectic alloy. 2258-2260A
- The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A
- Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy. 2659-2666A
- The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A
- The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A
- Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution. 3191-3199A
- Aluminum base alloys, Metal working**
- Prediction of yield surfaces of textured sheet metals. 377-386A
- Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys. 387-397A
- Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy by repeated thermomechanical treatment to produce a heavily deformable material. 2221-2228A
- An induction heating process with coil design and solutions avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3% Mg alloy for thixoforming. 2967-2977A
- Aluminum base alloys, Microstructure**
- On the origin of the R orientation in the recrystallization textures of aluminum alloys. 1517-1527A
- Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature. 1613-1623A
- Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm. 1625-1633A
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Influence of pressing speed on microstructural development in equal-channel angular pressing. 1989-1997A
- Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys. 2369-2381A
- Aluminum base alloys, Phase transformations**
- Study of precipitation kinetics in a super purity Al-0.8% Mg-0.9% Si alloy using differential scanning calorimetry. 879-884A
- Aluminum base alloys, Phases (state of matter)**
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. Compositional characterization of Cu-rich phase particles present in as-cast Al-Cu-Mg(-Li) alloys containing Ag. 1315-1326A
1693-1704A
- Aluminum base alloys, Physical properties**
- The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres. 1027-1032B
- Aluminum base alloys, Powder technology**
- Surface oxide and the role of magnesium during the sintering of aluminum. 457-463A
- Anomalous pore morphologies in liquid-phase-sintered Al-Zn alloys. 1682-1685A
- Aluminum base alloys, Structural hardening**
- Aging behavior of an Al-Li-Cu-Mg-Zr alloy. 741-749A
- Aluminum base alloys, Welding**
- Quantitative evaluation of softened regions in weld heat-affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process. 2115-2120A
- Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
- A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A
- Precipitation sequence in friction stir weld of 6063 aluminum during aging. 3125-3130A
- Aluminum compounds, Phase transformations**
- Superheating behavior of NiAl: Authors' reply. 3265A
- Aluminum killed steels, Mechanical properties**
- The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
- Aluminum oxide, Bonding**
- The influence of solid-state and liquid-phase bonding on fatigue at Al/Al₂O₃ interfaces. 763-769A
- Aluminum oxide, Composite materials**
- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
- Settling of multisized clusters of alumina particulates in liquid aluminum. 241-247B
- Wear behavior of in situ Al-based composites containing TiB₂, Al₂O₃, and Al₃Ti particles. 243-248A
- Infiltration of fibrous preforms by a pure metal. V. Influence of preform compressibility. 471-482A
- Synergistic effects of wear and corrosion for Al₂O₃ particulate-reinforced 6061 aluminum matrix composites. 643-651A
- Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum. 815-824A
- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Diffusional reactions during processing of Timetal 21S/Al₂O₃ composites. 1437-1447A
- The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments. 1835-1841A
- Plasticity of continuous fiber-reinforced metals. 1843-1866A
- Creep behavior of an AZ91 magnesium alloy reinforced with alumina fibers. 2059-2066A
- Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite. 2539-2545A
- Aluminum oxide, Crystal growth**
- Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron. 1065-1074B
- Aluminum oxide, Impurities**
- Modeling of inclusion removal in a tundish. 639-654B
- Aluminum oxide, Reactions (chemical)**
- The effect of Al₂O₃ on liquidus temperatures of fayalite slags. Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of Al₂O₃, Fe₂O₃, and basicity in the sinter ore. 597-605B
671-683B
- A study of the sulfide capacities of iron-oxide containing slags. Phase-diagram study for the Al₂O₃-CaF₂-SiO₂ system. 909-920B
921-925B
- Amorphization, Processing effects**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 751-761A
- Amorphous structure, Processing effects**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 751-761A
- Annealing**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 751-761A
- Diffusional reactions during processing of Timetal 21S/Al₂O₃ composites. 1437-1447A
- On the origin of the R orientation in the recrystallization textures of aluminum alloys. 1517-1527A
- Annealing, Alloying effects**
- Effect of cold rolling and annealing on the structure of γ'' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy. 1923-1931A
- Anode sludge, Reactions (chemical)**
- Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
- Anodes, Design**
- The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. 341-348B
- Anodes, Materials selection**
- A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper. 307-321B
- Anodic dissolution**
- Electrochemical interfacial phenomena under microgravity. I. Anodic dissolution of copper in drop shaft. 99-105B
- Anodic dissolution, Field effects**
- Electrochemical interfacial phenomena under microgravity. II. Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution. 779-790B
- Arc heating**
- Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
- Argon, Environment**
- Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
- Argon blowing**
- Height of the spout of a gas plume discharging from a metal melt. 655-660B
- Arsenic, Impurities**
- Simulation of the removal of arsenic during the roasting of copper concentrate. 393-401B
- Arsenic, Trace elements**
- Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Ausforming**
- Deformation of metastable austenite and resulting properties during the ausform-fining of 1% carburized AISI 9310 steel gears. 183-193A

- Austempering**
Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A
- Austenitic stainless steels, Crystal growth**
The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys. 1817-1826A
- Austenitic stainless steels, Mechanical properties**
Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining. 1327-1331A
Modeling solid-particle erosion of ductile alloys. 1763-1774A
- Austenitic stainless steels, Metal working**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Austenitic stainless steels, Oxidation**
Simultaneous oxidation and sigma-phase formation in a stainless steel. 355-362A
- Austenitic stainless steels, Phase transformations**
Mechanism of the formation of lamellar $M_{23}C_6$ at and near twin boundaries in austenitic stainless steels. 2791-2801A
- Austenitic stainless steels, Rolling**
Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A
- Austenitic stainless steels, Welding**
Direction of grain-boundary migration in the weld metal of an austenitic stainless steel. 621-626A
- Austenitizing**
A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon steel. 107-117B
Fatigue and fracture of porous steels and Cu-infiltrated porous steels. 325-334A
- Automotive bodies, Coating**
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
- Automotive components, Casting**
Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B
- Automotive components, Coating**
Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
- Automotive components, Mechanical properties**
Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. 2885-2893A
Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation. 2895-2904A
- Bacterial corrosion, Coating effects**
Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers. 2129-2134A
- Bainitic transformations**
Bainite transformation temperatures in high-silicon steels. 909-916A
- Bake hardenable steels, Phase transformations**
Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Baking**
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
- Ball milling**
Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed. 1877-1880A
- Barkhausen effect, Deformation effects**
Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel. 2067-2072A
- Batch annealing**
Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Bauschinger effect**
Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel. 3069-3078A
- Bauschinger effect, Deformation effects**
Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
- Bend strength, Processing effects**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Beryllium, Corrosion**
Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers. 2129-2134A
- Beverage cans, Metal working**
Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys. 387-397A
- Billet casting**
Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B
Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B
- Billets, Extrusion**
Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A
- Billets, Microstructure**
Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B
Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B
- Binary systems, Phase transformations**
Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed. 1877-1880A
The influence of temperature gradients on Ostwald ripening. 2341-2348A
A numerical model of peritectoid transformation. 2563-2573A
Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A
- Binary systems, Phases (state of matter)**
 $\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. 231-233A
Thermodynamic calculation for alloy systems. 271-277B
Thermodynamics of Ca-Ga alloys. 459-464B
Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
The neodymium-gold phase diagram. 1169-1176A
Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A
Directional solidification and phase equilibria in the Ni-Al system. 3167-3175A
- Bismuth, Alloying elements**
Solid solution creep behavior of Sn-xBi alloys. 115-122A
Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. 123-132A
- Bismuth, Dopants**
Bismuth embrittlement of [011] twist boundaries in copper bicrystals. 483-485A
- Bismuth, Ternary systems**
Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A
- Blast furnace practice**
Thermodynamics of TiO_x in blast furnace-type slags. 29-43B
Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln. 969-977B
- Blister copper, Extraction**
Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B
- Bolts, Mechanical properties**
Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Boriding**
Evaluation of halide-activated pack boriding of Inconel 722. 670-675A
- Boron, Alloying additive**
Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. 1185-1191A
- Boron nitride, Composite materials**
Wear of Al-based hybrid composites containing BN and SiC particulates. 2551-2555A
- Bottom blown converters**
Model study on mixing and mass transfer in ferroalloy refining processes. 231-239B
Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath. 631-637B
- Brasses, Casting**
Mathematical modeling of copper and brass upcasting. 75-98B
- Brasses, Mechanical properties**
Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
- Brasses, Microstructure**
Fifty-year study of grain-boundary relaxation. 2267-2295A
- Brinell hardness, Processing effects**
A study on laser sintering of Fe-Cu powder compacts. 2229-2235A
- Brittle fracture**
Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A

- Brittle fracture, Alloying effects**
Bismuth embrittlement of [011] twist boundaries in copper bicrystals. 483-485A
- Bronzes, Mechanical properties**
Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys. 2649-2657A
- Bronzes, Powder technology**
Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts. 465-470A
- Bubbles**
Turbulence structure of bottom-blowing bubbling jet in a molten Wood's metal bath. 61-66B
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B
- Bubbling**
Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt. 411-418B
- Bulk modulus, Temperature effects**
Temperature and composition dependence of the elastic constants of Ni₃Al. 2403-2408A
- Cadmium, Binary systems**
Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
- Calcium, Alloying additive**
Influence of calcium addition on the superplastic-like behavior of extruded Al-Al₃Ni eutectic alloy. 2258-2260A
- Calcium, Binary systems**
Thermodynamics of Ca-Ga alloys. 459-464B
- Calcium fluoride, Reactions (chemical)**
Phase-diagram study for the Al₂O₃-CaF₂-SiO₂ system. 921-925B
- Carbides, Coatings**
Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Carbides, Crystal growth**
Precipitation of an intermetallic phase with Pt₂Mo-type structure in alloy 625. 41-52A
Secondary carbide precipitation in a directionally solidified cobalt-base superalloy. 513-520A
Characterization of the W₂C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A
Mechanism of the formation of lamellar M₂₃C₆ at and near twin boundaries in austenitic stainless steels. 2791-2801A
- Carbides, Mechanical properties**
Dislocations, kink bands, and room-temperature plasticity of Ti₃SiC₂. 1727-1738A
- Carbon, Composite materials**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Carbon, Diffusion**
Role of back-diffusion studied by computer simulation. 1635-1641A
Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Carbon, Reactions (chemical)**
Reactive infiltration of silicon melt through microporous amorphous carbon preforms. 933-944B
- Carbon, Solubility**
Solubility of carbon in CaO-B₂O₃ and BaO-B₂O₃ slags. 1045-1052B
- Carbon, Ternary systems**
Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
Evaluation of interaction parameters in metallic solutions by the isoactivity method. 3103-3110A
- Carbon steels, Coating**
Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation. 3131-3141A
- Carbon steels, Heat treatment**
Microstructure of TiB₂/carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation. 3143-3151A
- Carbon steels, Mechanical properties**
Fatigue and fracture of porous steels and Cu-infiltrated porous steels. 325-334A
Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel. 3069-3078A
- Carbon steels, Melting**
Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding. 791-801B
- Carbonates, Reduction (chemical)**
Effect of heat and mass transfer on the thermal decomposition of SrCO₃ compacts. 901-908B
- Carbonylides, Coatings**
Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Carbothermic reactions**
Influence of pellet composition and structure on carbothermic reduction of silica. 295-306B
Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas. 375-381B
High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system. 695-705B
Carbothermic reduction of ilmenite (FeTiO₃) and rutile (TiO₂). 1075-1081B
- Carburizing**
Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys. 2027-2035A
Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Case depth**
Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
- Cast iron, Casting**
A thermally coupled flow formulation with microstructural evolution for hypoeutectic cast-iron solidification. 731-744B
- Casting alloys, Mechanical properties**
Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A
Effect of alloy preheating on the mechanical properties of as-cast Co-Cr-Mo-C alloys. 611-620A
The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A
Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy. 2659-2666A
The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A
The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A
- Casting alloys, Microstructure**
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Casting alloys, Phases (state of matter)**
Compositional characterization of Cu-rich phase particles present in as-cast Al-Cu-Mg(-Li) alloys containing Ag. 1693-1704A
- Casting defects, Alloying effects**
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Cavitation**
Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B
Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B
- Cavitation, Deformation effects**
Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation. 53-64A
Cavitation and failure during hot forging of Ti-6Al-4V. 1411-1424A
Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution. 3191-3199A
- Cavitation erosion, Vibration effects**
Cavitation erosion of NiAl. 335-343A
- Cellular structure**
A fine $\gamma+\alpha$ cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A
Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A
Cell/dendrite distribution in directionally solidified hypoeutectic Pb-Sb alloys. 2159-2165A
Macrosegregation caused by thermosolutal convection during directional solidification of Pb-Sb alloys. 2167-2171A
Cellular/dendritic array tip morphology during directional solidification of Pb-5.8 wt.% Sb alloy. 2463-2472A

Cementation

- Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B

Cemented carbides, Coating

- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A

Cemented carbides, Coatings

- Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A

Cemented carbides, Mechanical properties

- A dual composite of WC-Co. 3231-3238A

Cementite, Crystal growth

- An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel. 501-512A

Centrifugal casting

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B

- Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A

Centrifugal castings, Microstructure

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B

Ceramic fibers, Coating

- Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites. 3019-3024A

Cerium, Alloying additive

- Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A

- Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. 2599-2604A

Cermets, End uses

- A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper. 307-321B

Chalcopyrite, Beneficiation

- Chlorination of chalcopyrite concentrates. 567-576B

Chemical composition

- Compositional characterization of Cu-rich phase particles present in as-cast Al-Cu-Mg(-Li) alloys containing Ag. 1693-1704A

Chemical composition, Processing effects

- Mathematical model for nitrogen control in oxygen steelmaking. 945-956B

Chemical etching

- Electrochemical interfacial phenomena under microgravity. I. Anodic dissolution of copper in drop shaft. 99-105B

Chemical vapor deposition

- Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium. 2641-2648A

- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A

Chill casting

- Casting-chill interface heat transfer during solidification of an aluminum alloy. 773-778B

Chill castings, Crystal growth

- Casting-chill interface heat transfer during solidification of an aluminum alloy. 773-778B

Chlorides, Reactions (chemical)

- Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B

Chlorination

- Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas. 375-381B

- Chlorination and carbochlorination of magnesium oxide. 383-391B

- Chlorination of chalcopyrite concentrates. 567-576B

- A study of chromite carbochlorination kinetics. 577-587B

Chromite, Beneficiation

- A study of chromite carbochlorination kinetics. 577-587B

Chromium, Alloying elements

- Liquid-solid partition ratios in nickel-base alloys. 2173-2181A

Chromium, Diffusion

- Role of back-diffusion studied by computer simulation. 1635-1641A

Chromium base alloys, Composite materials

- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A

Chromium compounds, Composite materials

- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A

Chromium iron, Mechanical properties

- Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A

Chromium molybdenum steels, Casting

- Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B

- Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B

- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A

Chromium molybdenum steels, Mechanical properties

- Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. 1185-1191A

- Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel. 2825-2834A

Chromium molybdenum steels, Welding

- Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A

- Role of gaseous environment and secondary precipitation in microstructural degradation of Cr-Mo steel weldments at high temperatures. 2103-2113A

Chromium molybdenum vanadium steels, Mechanical properties

- Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A

Chromium steels, Mechanical properties

- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A

Cleavage

- The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I. 65-79A

Cleavage, Alloying effects

- The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy. 2007-2018A

Cleavage, Composition effects

- Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys. 925-939A

- High-temperature mechanical behavior of Ti-6Al-4V alloy and Ti₃Al-6Al-4V composite. 1569-1578A

- Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys". 1686A

- Correction to erratum: Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid solution alloys. 3025A

Cleavage, Deformation effects

- The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A

Clustering, Processing effects

- Settling of multisized clusters of alumina particulates in liquid aluminum. 241-247B

Cobalt, Composite materials

- A dual composite of WC-Co. 3231-3238A

Cobalt, Reactions (chemical)

- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B

- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B

Cobalt base alloys, Heat treatment

- Development of a heat treatment for a directionally solidified cobalt-base superalloy. 2251-2254A

Cobalt base alloys, Mechanical properties

- Effect of alloy preheating on the mechanical properties of as-cast Co-Cr-Mo-C alloys. 611-620A

- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A

- Modeling solid-particle erosion of ductile alloys. 1763-1774A

- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Cobalt base alloys, Microstructure

- Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys. 2941-2949A

Cobalt base alloys, Phase transformations

- Secondary carbide precipitation in a directionally solidified cobalt-base superalloy. 513-520A

- Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy. 1177-1184A

Cobalt compounds, Mechanical properties

- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Cold forging

- Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys. 81-92A

Cold rolling

- Effect of cold rolling on the precipitation behavior of δ phase in Inconel 718. 31-40A

Cold rolling, Alloying effects

- Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy. 1923-1931A

Cold rolling, Processing effects

- Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhodium. 2641-2648A

Columnar structure, Diffusion effects

- Growth of silicides and interdiffusion in the Mo-Si system. 545-550A

Combustion

- Field-activated combustion synthesis of titanium aluminides. 1101-1108A

Compacted graphite iron, Phase transformations

- Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A

Compacting

- Considering particle morphology in a constitutive model for metal powders compaction. 1159-1162A

Compressing, Temperature effects

- Influence of the temperature on the plastic deformation in TiAl. 2865-2873A

Computer programs

- Characteristics of continuous-galvanizing baths. 144-148B

Computer simulation

- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A

- Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys. 387-397A

- LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe. 957-967B

- Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron. 1065-1074B

- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A

- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A

- Role of back-diffusion studied by computer simulation. 1635-1641A

- Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2513-2522A

- Multicomponent diffusion simulation based on finite elements. 2575-2582A

- A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A

- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A

Contact angle

- Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method. 1827-1833A

Continuous cast shapes, Microstructure

- Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B

- Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B

Continuous casting

- Development and calibration of a Karman vortex probe for measurement of molten-steel velocities. 53-59B

- Mathematical modeling of copper and brass upcasting. 75-98B

- Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B

- Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B

- Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. 979-985B

- Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model. 1095-1105B

- A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A

Continuous casting, Quality control

- Erratum: Investigation of inclusion re-entrainment from the steel-slag interface. 149B

- The challenge of quality in continuous casting processes. 553-566B

- Modeling of inclusion removal in a tundish. 639-654B

Controlled atmospheres

- Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A

Convection

- A thermally coupled flow formulation with microstructural evolution for hypoeutectic cast-iron solidification. 731-744B

- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A

Convection, Field effects

- Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field. 1809-1815A

Cooling rate

- Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B

- Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method. 1827-1833A

Copper, Alloying additive

- Fatigue and fracture of porous steels and Cu-infiltrated porous steels. 325-334A

Copper, Alloying elements

- Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A

- Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures. 2455-2462A

Copper, Binary systems

- The neodymium-gold phase diagram. 1169-1176A

- Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A

- Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A

Copper, Casting

- Mathematical modeling of copper and brass upcasting. 75-98B

Copper, Coating

- Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations. 223-229B

Copper, Coatings

- Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061. 2191-2199A

Copper, Composite materials

- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A

- Plasticity of continuous fiber-reinforced metals. 1843-1866A

- Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep. 2989-2997A

Copper, Corrosion

- Electrochemical interfacial phenomena under microgravity. II. Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution. 779-790B

Copper, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A

- Evaluation of the methods for calculating the concentration-dependent diffusivity in binary systems. 2605-2610A

Copper, Directional solidification

- Pore nucleation in solidifying high-purity copper. 2449-2453A

Copper, Extraction

- Simulation of the removal of arsenic during the roasting of copper concentrate. 393-401B

- Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B

- The effect of Al₂O₃ on liquidus temperatures of fayalite slags. 597-605B

- A thermodynamic database for copper smelting and converting. 661-669B

- The effect of MgO on liquidus temperatures of fayalite slags. 1017-1026B

Copper, Mechanical properties

- Bismuth embrittlement of [011] twist boundaries in copper bicrystals. 483-485A

- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A

Copper, Microstructure

- Use of microstructural statistics in predicting polycrystalline material properties. 969-979A

Copper, Powder technology

- Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A

- A study on laser sintering of Fe-Cu powder compacts. 2229-2235A

Copper, Refining

- A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper. 307-321B

Copper, Solubility

- Electrochemical interfacial phenomena under microgravity. I. Anodic dissolution of copper in drop shaft. 99-105B

Copper base alloys, Composite materials

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B
- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B
- Plasticity of continuous fiber-reinforced metals. 1843-1866A

Copper base alloys, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A

Copper base alloys, Mechanical properties

- Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading. 1933-1943A

Copper base alloys, Phase transformations

- Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A
- Microstructure and martensitic transformations in a dual-phase α/β Cu-Zn alloy. 729-739A

Copper base alloys, Phases (state of matter)

- Orientation relationship between β -Mn and $L2_1$ matrix in a Cu_2MnAl alloy. 1705-1716A

Copper base alloys, Powder technology

- Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A

Copper mattes, Reactions (chemical)

- A thermodynamic database for copper smelting and converting. 661-669B
- Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B

Corrosion environments

- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A

Corrosion resistance, Coating effects

- Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers. 2129-2134A

Corrosion resistance, Deformation effects

- Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining. 1327-1331A

Corrosive wear, Composition effects

- Synergistic effects of wear and corrosion for Al_2O_3 particulate-reinforced 6061 aluminum matrix composites. 643-651A

Crack closure

- Discussion of "Reconsideration of error in the analysis of the wake dislocation problem" and authors' response. 1452-1459A

Crack initiation

- The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I. 65-79A
- Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
- A new hot-tearing criterion. 449-455A
- Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy. 887-890A
- An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A
- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A
- Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Crack initiation, Alloying effects

- The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A

Crack initiation, Coating effects

- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A

Crack initiation, Composition effects

- Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A

Crack initiation, Deformation effects

- Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys. 81-92A

Crack initiation, Microstructural effects

- Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy. 2659-2666A

Crack initiation, Processing effects

- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A

Crack initiation, Welding effects

- The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A

Crack propagation

- The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron. 155-159A
- Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
- Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
- The influence of solid-state and liquid-phase bonding on fatigue at Al/Al_2O_3 interfaces. 763-769A
- An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A
- An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A
- Growth of small fatigue cracks in PH 13-8 Mo stainless steel. 1289-1300A
- Discussion of "Reconsideration of error in the analysis of the wake dislocation problem" and authors' response. 1452-1459A
- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A
- The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Crack propagation, Alloying effects

- The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A
- Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A
- The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy. 2007-2018A
- Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Properties of the $Ir_{85}Nb_{15}$ two-phase refractory superalloys with nickel additions. 2629-2639A

Crack propagation, Composite materials

- Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A

Crack propagation, Composition effects

- Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
- Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys. 925-939A
- Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys". 1686A
- Correction to erratum: Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid solution alloys. 3025A

Crack propagation, Deformation effects

- Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys. 81-92A

Crack propagation, Heating effects

- Fatigue and fracture of porous steels and Cu-infiltrated porous steels. 325-334A
- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A

Crack propagation, High temperature effects

- Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
- Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation. 2895-2904A

Crack propagation, Microstructural effects

- The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics. 563-577A

Crack propagation, Processing effects

- Closure-affected fatigue crack propagation behaviors of powder metallurgy-processed Al-Li alloys in various environments. 2097-2102A
- The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A

- Crack propagation, Welding effects**
The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A
- Cracking (fracturing), Welding effects**
Hot cracking susceptibility of fillers S2 and 82 in alloy 690 welding. 417-426A
- Creep (materials)**
An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A
Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C. 2843-2852A
- Creep (materials), High temperature effects**
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. 371-376A
- Creep (materials), Microstructural effects**
Time-dependent twinning during ambient temperature compression creep of alpha Ti-0.4Mn alloy. 1675-1679A
- Creep (materials), Temperature effects**
Indentation power-law creep of high-purity indium. 601-610A
Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep. 2989-2997A
- Creep rate**
Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites. 301-306A
Fundamental aspects of creep in metal matrix composites. 315-324A
Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1301-1313A
Effect of matrix hardness on the creep properties of a 12CrMoVNB steel. 2331-2339A
- Creep rate, Composition effects**
Solid solution creep behavior of Sn-xBi alloys. 115-122A
Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum. 829-838A
- Creep rate, Microstructural effects**
The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. 2349-2367A
- Creep rupture strength**
Effect of matrix hardness on the creep properties of a 12CrMoVNB steel. 2331-2339A
- Creep rupture strength, Alloying effects**
Effect of small amounts of nitrogen on properties of a Ni-based superalloy. 1755-1761A
- Creep rupture strength, Heating effects**
Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel. 2825-2834A
- Creep strength**
Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites. 301-306A
Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1301-1313A
- Creep strength, Alloying effects**
Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Creep strength, Composition effects**
High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC_p/Ti-6Al-4V composite. 1569-1578A
- Creep strength, High temperature effects**
Creep behavior of an AZ91 magnesium alloy reinforced with alumina fibers. 2059-2066A
- Criteria**
A new hot-tearing criterion. 449-455A
- Critical temperature**
Bainite transformation temperatures in high-silicon steels. 909-916A
Discussion of "Superheating behavior of NiAl". 1675A
Superheating behavior of NiAl: Authors' reply. 3265A
- Critical temperature, Heating effects**
Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A
- Crystal structure**
Microstructure and martensitic transformations in a dual-phase α/β Cu-Zn alloy. 729-739A
- Crystallization, Processing effects**
Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 751-761A
- Curie temperature**
Toward a probe for velocity measurement in molten metals at high temperatures. 623-630B
- Current density**
Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
- Current density, Shape effects**
The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. 341-348B
- Cutting tools, Coating**
Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Cyclic loads**
Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights. 777-779A
Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history. 1882-1885A
- Cyclic loads, Composition effects**
Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 857-867A
- Cylinder heads, Mechanical properties**
Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A
- Cylinders, Heat treatment**
Analysis of temperature and microstructure in the quenching of steel cylinders. 815-822B
- Damage**
Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys. 2369-2381A
- Damage, Composition effects**
Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 869-878A
- Damage, High temperature effects**
Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
- Damage tolerance, Heating effects**
Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel. 2825-2834A
- Damping capacity**
Damping behavior of foamed aluminum. 771-776A
- Damping capacity, Microstructural effects**
Effect of deformation on the damping capacity in an Fe-23% Mn alloy. 667-670A
- Debonding**
The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A
- Decarburizing, Quality control**
Mathematical model for nitrogen control in oxygen steelmaking. 945-956B
- Decontamination**
Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B
- Deep drawing**
Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire. 717-727A
- Deep drawing, Heating effects**
Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Defects**
The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
- Deformation**
Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A
- Deformation, Alloying effects**
Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Deformation, Heating effects**
Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys. 2027-2035A
- Deformation mechanisms**
Fundamental aspects of creep in metal matrix composites. 315-324A
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. 371-376A
Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights. 777-779A
Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy. 887-890A

Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys.	991-1001A	Diamond pyramid hardness, Coating effects	
An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy.	1025-1038A	Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering.	1605-1612A
Influence of grain size and stacking-fault energy on deformation twinning in fcc metals.	1223-1233A	Diamond pyramid hardness, Heating effects	
Deformation behavior of silicon.	1465-1479A	Evaluation of halide-activated pack boriding of Inconel 722.	670-675A
Time-dependent twinning during ambient temperature compression creep of alpha Ti-0.4Mn alloy.	1675-1679A	Diamond pyramid hardness, Microstructural effects	
The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C.	2349-2367A	$\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys.	231-233A
	2843-2852A	Diffractography	
Deformation mechanisms, Composition effects		Transmission x-ray diffraction of single-crystal nickel-base superalloys.	1880-1882A
Solid solution creep behavior of Sn-xBi alloys.	115-122A	Prediction and characterization of variant electron diffraction patterns for γ' and δ precipitates in an Inconel 718 alloy.	2297-2303A
Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.	123-132A	Diffusion coatings, Oxidation	
Deformation mechanisms, Temperature effects		Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings.	495-504B
Influence of the temperature on the plastic deformation in TiAl.	2865-2873A	Diffusivity	
Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.	2989-2997A	Multicomponent diffusion simulation based on finite elements. Evaluation of the methods for calculating the concentration-dependent diffusivity in binary systems.	2575-2582A 2605-2610A
Degradation		Diffusivity, Heating effects	
Degradation mechanism of SiC/super α_2 composite due to interfacial reaction.	2713-2720A	A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.	535-543A
Degradation, Composition effects		Diffusional reactions during processing of Timetal 21S/ Al_2O_3 composites.	1437-1447A
Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue.	307-313A	Direct chill casting	
Dendritic structure		A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.	119-133B
Modeling the fluid-flow-induced stress and collapse in a dendritic network.	287-293B	A mathematical model for surface segregation in aluminum direct chill casting.	135-142B
Numerical calculation of the permeability in a dendritic mushy zone.	613-622B	Direct reduced iron, Reactions (chemical)	
Erratum to "Numerical calculation of the permeability in a dendritic mushy zone".	1107B	Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln.	969-977B
Dendrite growth processes of silicon and germanium from highly undercooled melts.	1333-1339A	Directionally solidified eutectics, Casting	
Dendritic morphology observed in the solid-state precipitation in binary alloys.	1529-1534A	The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.	473-482B
Cell/dendrite distribution in directionally solidified hypoeutectic Pb-Sb alloys.	2159-2165A	Directionally solidified eutectics, Heat treatment	
Macrosegregation caused by thermosolutal convection during directional solidification of Pb-Sb alloys.	2167-2171A	Development of a heat treatment for a directionally solidified cobalt-base superalloy.	2251-2254A
Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures.	2455-2462A	Directionally solidified eutectics, Mechanical properties	
Cellular/dendritic array tip morphology during directional solidification of Pb-5.8 wt.% Sb alloy.	2463-2472A	Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys.	991-1001A
Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.	2659-2666A	Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy.	1003-1015A
Dendritic structure, Cooling effects		Effect of small amounts of nitrogen on properties of a Ni-based superalloy.	1755-1761A
Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply.	3011-3016A	Influence of calcium addition on the superplastic-like behavior of extruded Al-Al ₃ Ni eutectic alloy.	2258-2260A
Dendritic structure, Deformation effects		Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.	2659-2666A
Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C.	2843-2852A	Directionally solidified eutectics, Microstructure	
Dendritic structure, Field effects		Cell/dendrite distribution in directionally solidified hypoeutectic Pb-Sb alloys.	2159-2165A
Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field.	1809-1815A	Macrosegregation caused by thermosolutal convection during directional solidification of Pb-Sb alloys.	2167-2171A
Dendritic growth tip velocities and radii of curvature in microgravity.	3177-3190A	Directionally solidified eutectics, Phase transformations	
Dendritic structure, Processing effects		Secondary carbide precipitation in a directionally solidified cobalt-base superalloy.	513-520A
Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds.	1367-1379A	Disks, Casting	
Densification		Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks.	723-729B
Densification during the supersolidus liquid-phase sintering of nickel-based prealloyed powder mixtures.	2201-2208A	Dislocation density	
A study on laser sintering of Fe-Cu powder compacts.	2229-2235A	Deformation behavior of silicon.	1465-1479A
Densification and shape distortion in liquid-phase sintering.	3211-3217A	Dislocation loops	
Density, Processing effects		A general numerical method to solve for dislocation configurations.	2073-2087A
High-energy x-ray computed tomography of the progression of the solidification front in pure aluminum.	1403-1409A	Dislocation mobility	
Deoxidizing		Deformation behavior of silicon.	1465-1479A
Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, T, Al, Zr, and Ce.	249-257B	Dislocation mobility, Composition effects	
Analysis of size distributions of primary oxide inclusions in Fe-10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.	259-270B	Solid solution creep behavior of Sn-xBi alloys.	115-122A
A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.	307-321B	Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.	123-132A
Thermodynamics of yttrium and oxygen in molten zirconium.	352-354B	Dislocation mobility, Temperature effects	
Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron.	1065-1074B	Influence of the temperature on the plastic deformation in TiAl.	2865-2873A
Dephosphorizing		Dislocations	
Activity coefficient of nickel oxide in BaO-based slags.	143-144B	Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys.	991-1001A
Desulfurizing		Dislocations, Deformation effects	
Activity coefficient of nickel oxide in BaO-based slags.	143-144B	Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights.	777-779A

- Dislocations, kink bands, and room-temperature plasticity of Ti_3SiC_2 . 1727-1738A
- Dispersion hardening alloys, Crystal growth**
Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 1885-1887A
- Dispersion hardening alloys, Mechanical properties**
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. 371-376A
Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum. 829-838A
- Dispersions**
Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B
- Dissimilar materials, Bonding**
The influence of solid-state and liquid-phase bonding on fatigue at Al/ Al_2O_3 interfaces. 763-769A
- Dissimilar materials, Bonding**
Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system. 3111-3124A
- Distortion, Processing effects**
Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2209-2220A
Densification and shape distortion in liquid-phase sintering. 3211-3217A
- Drawability**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Drawability, Heating effects**
Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Drawing**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Dual phase steels, Metal working**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Ductile brittle transition**
Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy. 1003-1015A
- Ductile fracture**
The influence of tensile stress states on the failure of HY-100 steel. 2835-2842A
- Ductile fracture, Composition effects**
High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC/Ti-6Al-4V composite. 1569-1578A
- Ductility**
Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy. 1003-1015A
An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A
On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2547-2549A
The influence of tensile stress states on the failure of HY-100 steel. 2835-2842A
Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A
- Ductility, Alloying effects**
The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A
The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
Properties of the $Ir_{85}Nb_{15}$ two-phase refractory superalloys with nickel additions. 2629-2639A
- Ductility, Composition effects**
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A
The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A
- Ductility, Cryogenic effects**
Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-Zr alloys at 293 and 77K. 2254-2258A
- Ductility, Deformation effects**
Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A
- Ductility, Heating effects**
Effect of alloy preheating on the mechanical properties of as-cast Co-Cr-Mo-C alloys. 611-620A
- Ductility, Microstructural effects**
Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys. 991-1001A
- Ductility, Stress effects**
Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 949-959A
- Duplex stainless steels, Welding**
A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model. 2915-2929A
- Dynamic mechanical properties, Microstructural effects**
Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys. 1261-1273A
- Economics**
Sustainability: The materials role. 895-908A
- Edge dislocations**
A general numerical method to solve for dislocation configurations. 2073-2087A
- Elastic anisotropy**
Prediction of yield surfaces of textured sheet metals. 377-386A
Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel. 3069-3078A
- Elastic anisotropy, Deformation effects**
The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A
- Elastic anisotropy, Microstructural effects**
Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates. 1283-1288A
- Elastic constants, Microstructural effects**
Use of microstructural statistics in predicting polycrystalline material properties. 969-979A
- Electric arcs**
Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels. 3263-3265A
- Electric circuits, Reactions (chemical)**
Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- Electric connectors, Soldering**
Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1301-1313A
- Electric contacts, Fabrication**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Electroless copper plating**
Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations. 223-229B
- Electroless plating**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Electrolytic cells, Design**
A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper. 307-321B
The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. 341-348B
- Electromagnetic fields**
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Electromagnetic induction**
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Electromagnetic stirring**
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Electrometallurgy**
Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations. 223-229B
Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B
- Electron beam hardening**
Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation. 1211-1221A
- Electron beam heating**
Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A

Electron beam processing

- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Mathematical modeling of a melt pool driven by an electron beam. 515-525B
- Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation. 3131-3141A

Electron beam welding

- Fusion zone microstructure and porosity in electron beam welds of an α - β titanium alloy. 789-798A
- The role of phase transformation in electron-beam welding of TiAl-based alloys. 1717-1726A
- Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy. 1797-1808A

Electron beams

- Microstructure of TiB₂/carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation. 3143-3151A

Electron diffraction

- Prediction and characterization of variant electron diffraction patterns for γ and δ precipitates in an Inconel 718 alloy. 2297-2303A

Electronic devices, Soldering

- Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A

Electroplates, Mechanical properties

- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A

Electroplates, Microstructure

- Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A

Electroplating

- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A

Electrowinning

- Strategies for optimal operation of the tellurium electrowinning process. 5-13B

Elongated structure, Heating effects

- The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A

Elongation

- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Elongation, Alloying effects

- Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. 1185-1191A

Elongation, Composition effects

- High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC_p/Ti-6Al-4V composite. 1569-1578A

Elongation, Deformation effects

- Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A

Elongation, Microstructural effects

- A fine γ - α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A
- Microstructure-property relations in as-extruded ultrahigh-carbon steels. 1559-1568A

Embrittlement

- Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A

Embrittlement, Alloying effects

- Bismuth embrittlement of [011] twist boundaries in copper bicrystals. 483-485A

Embrittlement, Microstructural effects

- A fine γ - α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A

Energy conservation

- Sustainability: The materials role. 895-908A

Engine blocks, Heat treatment

- Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation. 1211-1221A

Enthalpy

- A thermodynamic interpretation of the size-ratio limits for Laves phase formation. 1449-1452A
- A self-consistent model for predicting interaction parameters in multicomponent alloys. 3099-3102A

Epitaxial growth

- Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by hydride vapour phase epitaxy. 1047-1051A

Epitaxy

- Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by hydride vapour phase epitaxy. 1047-1051A

Equal channel angular extrusion

- Finite-element modeling of nonisothermal equal-channel angular extrusion. 1391-1402A
- Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures. 1425-1435A

Equal channel angular extrusion, Microstructural effects

- Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A

Equal channel angular pressing

- Influence of pressing speed on microstructural development in equal-channel angular pressing. 1989-1997A

Equiaxed structure

- Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures. 2455-2462A
- Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A

Erosion

- Erosion of SS41 steel by sand blasting. 941-948A
- Modeling solid-particle erosion of ductile alloys. 1763-1774A

Erosion resistance, Coating effects

- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A

Eutectoid reactions

- Thermodynamic prediction of the eutectoid transformation temperatures of low-alloy steels. 2325-2330A

Explosions

- Triggering steam explosions of single drops of a molten ferro-silicon alloy with a simple encapsulated mechanical impactor. 1083-1088B

Explosive compacting

- Hot explosive compaction of Mo-Ti alloys. 2483-2489A

Extrusions, Mechanical properties

- Microstructure-property relations in as-extruded ultrahigh-carbon steels. 1559-1568A
- Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A

Extrusions, Welding

- A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A

Failure analysis

- The influence of tensile stress states on the failure of HY-100 steel. 2835-2842A

Fatigue failure

- Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
- Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
- The influence of solid-state and liquid-phase bonding on fatigue at Al/Al₂O₃ interfaces. 763-769A
- Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy. 887-890A
- An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A
- Growth of small fatigue cracks in PH 13-8 Mo stainless steel. 1289-1300A
- Discussion of "Reconsideration of error in the analysis of the wake dislocation problem" and authors' response. 1452-1459A
- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A
- Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history. 1882-1885A
- The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A

Fatigue failure, Composite materials

- Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A

Fatigue failure, Composition effects

- Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
- Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 857-867A
- Fatigue in selectively fiber-reinforced titanium matrix composites. 2237-2248A

Fatigue failure, High temperature effects

- Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
- Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. 2885-2893A
- Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation. 2895-2904A

Fatigue failure, Microstructural effects

- The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics. 563-577A
- Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy. 2659-2666A

Fatigue failure, Processing effects

- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
- Closure-affected fatigue crack propagation behaviors of powder metallurgy-processed Al-Li alloys in various environments. 2097-2102A
- The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A

Fatigue life

- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A
- Growth of small fatigue cracks in PH 13-8 Mo stainless steel. 1289-1300A
- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A

Fatigue life, Coating effects

- Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites. 3019-3024A

Fatigue life, Composition effects

- Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue. 307-313A
- Fatigue in selectively fiber-reinforced titanium matrix composites. 2237-2248A

Fatigue life, High temperature effects

- Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A

Fatigue life, Welding effects

- The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A

Fatigue limit

- Growth of small fatigue cracks in PH 13-8 Mo stainless steel. 1289-1300A

Fatigue strength

- An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A

Fatigue strength, Alloying effects

- The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy. 2007-2018A

Fatigue strength, Processing effects

- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A

FCC metals, Mechanical properties

- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A

Ferritic stainless steels, Crystal growth

- The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys. 1817-1826A

Ferritic stainless steels, Mechanical properties

- Effect of matrix hardness on the creep properties of a 12CrMoVNb steel. 2331-2339A

Ferritic stainless steels, Oxidation

- Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels. 3263-3265A

Ferritic stainless steels, Welding

- Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A

Ferromagnetism

- Magnetic transformation of Ni_2AlMn Heusler-type shape memory alloys. 2721-2723A

Ferronickel, Crystal growth

- Investigation of the surface of the liquidus of the Fe-Ni-S system at $X_S < 0.51$. 715-722B

Ferrosilicon, Melting

- Influence of pellet composition and structure on carbothermic reduction of silica. 295-306B

Ferrosilicon, Reactions (chemical)

- Triggering steam explosions of single drops of a molten ferrosilicon alloy with a simple encapsulated mechanical impactor. 1083-1088B

Ferrous alloys, Coatings

- Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation. 3131-3141A

Ferrous alloys, Composite materials

- Interaction between nonstoichiometric titanium carbide and Fe-C alloys. 857-863B

Ferrous alloys, Crystal growth

- Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B
- Role of back-diffusion studied by computer simulation. 1635-1641A
- Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method. 1827-1833A
- Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 1885-1887A

Ferrous alloys, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A

Ferrous alloys, Mechanical properties

- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Ferrous alloys, Microstructure

- A fine $\gamma + \alpha$ cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A
- Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys. 2941-2949A

Ferrous alloys, Phase transformations

- Kinetics of homogeneous martensitic nucleation in iron-based alloys. 884-887A
- Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling. 2599-2604A
- 2767-2781A

Ferrous alloys, Physical properties

- Effect of deformation on the damping capacity in an Fe-23% Mn alloy. 667-670A

Ferrous alloys, Powder technology

- A study on laser sintering of Fe-Cu powder compacts. 2229-2235A

Ferrous alloys, Reactions (chemical)

- A self-consistent model for predicting interaction parameters in multicomponent alloys. 3099-3102A

Ferrous alloys, Reduction (chemical)

- Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, T, Al, Zr, and Ce. 249-257B
- Analysis of size distributions of primary oxide inclusions in Fe-10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy. 259-270B

Ferrous alloys, Refining

- Model study on mixing and mass transfer in ferroalloy refining processes. 231-239B

Fiber composites, Casting

- Infiltration of fibrous preforms by a pure metal. V. Influence of preform compressibility. 471-482A
- Reactive infiltration of silicon melt through microporous amorphous carbon preforms. 933-944B
- Modeling of composite growth in the directed aluminum melt nitridation process. 2951-2958A

Fiber composites, Diffusion

- Diffusional reactions during processing of Timetal 21S/ Al_2O_3 composites. 1437-1447A

Fiber composites, Mechanical properties

- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
- Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
- Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
- Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
- Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites. 301-306A
- Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum. 815-824A
- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments. 1835-1841A
- Plasticity of continuous fiber-reinforced metals. 1843-1866A
- Creep behavior of an AZ91 magnesium alloy reinforced with alumina fibers. 2059-2066A

Fatigue in selectively fiber-reinforced titanium matrix composites.	2237-2248A	The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy.	3055-3068A
Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites.	2513-2522A	Fracture mechanics	
Degradation mechanism of SiC/super α_2 composite due to interfacial reaction.	2713-2720A	An intergranular creep crack growth model based on grain boundary sliding.	1039-1045A
Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites.	3019-3024A	Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass.	1739-1753A
Fiber composites, Reactions (chemical)		Degradation mechanism of SiC/super α_2 composite due to interfacial reaction.	2713-2720A
Interface characterization of duplex metal-coated SiC fiber-reinforced Ti-15-3 matrix composites.	653-666A	Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation.	2895-2904A
Fiber composites, Thermal properties		Fracture strength	
Thermal expansion of morphologically textured short-fiber composites.	203-212A	Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water.	1579-1596A
Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.	2875-2884A	A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process.	2619-2627A
Fiber orientation		Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system.	3111-3124A
Thermal expansion of morphologically textured short-fiber composites.	203-212A	Fracture strength, Deformation effects	
Filler metal, Mechanical properties		Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.	2503-2512A
Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding.	417-426A	Fracture toughness	
Filtration		Correlation of microstructure and microfracture mechanism of five work rolls.	234-243A
Analyses of the dynamic processes of liquid metal filtration.	891-900B	Fracture toughness, Alloying effects	
Finite element method		The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.	2007-2018A
Analysis of temperature and microstructure in the quenching of steel cylinders.	815-822B	Fracture toughness, Composition effects	
Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading.	949-959A	Fatigue-crack propagation behavior of ductile/brittle laminated composites.	633-642A
LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe.	957-967B	Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys.	925-939A
Finite-element modeling of nonisothermal equal-channel angular extrusion.	1391-1402A	Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys".	1686A
A general numerical method to solve for dislocation configurations.	2073-2087A	Correction to erratum: Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid solution alloys.	3025A
Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys.	2369-2381A	A dual composite of WC-Co.	3231-3238A
Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites.	2513-2522A	Fracture toughness, Corrosion effects	
Multicomponent diffusion simulation based on finite elements.	2575-2582A	Degradation mechanism of SiC/super α_2 composite due to interfacial reaction.	2713-2720A
Interaction energy between martensitic variants.	2583-2590A	Fracture toughness, Heating effects	
Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.	2989-2997A	Fatigue and fracture of porous steels and Cu-infiltrated porous steels.	325-334A
Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr ₂ Nb in situ composites.	3239-3251A	Fracture toughness, High temperature effects	
Fluid flow		Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness.	2885-2893A
A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.	119-133B	Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation.	2895-2904A
Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.	483-493B	Fracture toughness, Impurity effects	
Discussion of "Decay of fluid motion in a filling ladle after tapping" and author's reply.	541-543B	Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel.	2089-2096A
Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments.	979-985B	Fracture toughness, Microstructural effects	
Fluxes, Materials selection		The effects of grain-refining precipitates on the development of toughness in 4340 steel.	93-114A
Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation.	3131-3141A	The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics.	563-577A
Microstructure of TiB ₂ /carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation.	3143-3151A	Fracture toughness, Processing effects	
Fluxes, Reactions (chemical)		Microprecipitation synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys.	171-188B
A thermodynamic study of BaO-BaF ₂ -Cr ₂ O ₃ system fluxes used for dephosphorization of chromium-containing iron melts.	451-457B	Fracture toughness, Stress effects	
Foamed metals, Physical properties		The influence of internal stresses on the fracture toughness of α/β titanium alloys.	2853-2863A
Damping behavior of foamed aluminum.	771-776A	Fracturing	
Formability		Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy.	579-585A
Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys.	387-397A	Fracturing, Composition effects	
Forming		Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum.	815-824A
Prediction of yield surfaces of textured sheet metals.	377-386A	Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum.	829-838A
Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys.	387-397A	Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.	845-855A
Foundry practice		Fracturing, Deformation effects	
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.	1643-1650A	Finite-element modeling of nonisothermal equal-channel angular extrusion.	1391-1402A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.	1651-1655A	Cavitation and failure during hot forging of Ti-6Al-4V.	1411-1424A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.	1657-1662A	Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures.	1425-1435A
		Fracturing, Heating effects	
		Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys.	2027-2035A

- Fracturing, Microstructural effects**
Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A
- Free energy**
A self-consistent model for predicting interaction parameters in multicomponent alloys. 3099-3102A
- Friction**
Finite-element modeling of nonisothermal equal-channel angular extrusion. 1391-1402A
- Friction welding**
Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
Precipitation sequence in friction stir weld of 6063 aluminum during aging. 3125-3130A
- Frictional wear**
Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
- Frictional wear, Environmental effects**
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
- Fused salts**
Preparation and physical characteristics of a lithium-beryllium-substituted fluorapatite. 147-153A
- Gallium, Binary systems**
Thermodynamics of Ca-Ga alloys. 459-464B
- Gallium base alloys**
Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy. 697-705A
- Gallium base alloys, Crystal lattices**
Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy. 697-705A
- Gallium base alloys, Phases (state of matter)**
Thermodynamics of Ca-Ga alloys. 459-464B
- Galvanized steels, Coating**
Characteristics of continuous-galvanizing baths. 144-148B
- Gas evolution**
Reduction of iron-silicon-oxysulfide by CO gas injection. 873-875B
- Gas metal arc welding**
Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding. 791-801B
- Gas turbine engines, Materials selection**
Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Gears, Metal working**
Deformation of metastable austenite and resulting properties during the ausform-finishing of 1% carburized AISI 9310 steel gears. 183-193A
- Germanium, Crystal growth**
Dendrite growth processes of silicon and germanium from highly undercooled melts. 1333-1339A
Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply. 3011-3016A
- Glissile dislocations, Composition effects**
Deformation behavior of dilute SnBi (0.5 to 6 at. %) solid solutions. 123-132A
- Gold, Binary systems**
The neodymium-gold phase diagram. 1169-1176A
- Gold, Diffusion**
Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
- Gold base alloys, Phase transformations**
Ordering transformation and spinodal decomposition in Au-Ni alloys. 707-716A
- Grain boundaries**
Texture evolution and the role of grain boundaries in skeletal formation during coarsening in solid-liquid mixtures. 1955-1969A
Fifty-year study of grain-boundary relaxation. 2267-2295A
- Grain boundary migration, Impurity effects**
Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel. 2089-2096A
- Grain boundary migration, Welding effects**
Direction of grain-boundary migration in the weld metal of an austenitic stainless steel. 621-626A
- Grain boundary sliding**
Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation. 53-64A
An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A
Fifty-year study of grain-boundary relaxation. 2267-2295A
- Grain growth**
An analytical model for nodular eutectic grain predictions during solidification. 927-932B
Dispersion of fine primary inclusions of MgO and ZrO₂ in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B
Investigation of microstructural coarsening in Sn-Pb alloys. 1541-1547A
- Grain growth, Alloying effects**
The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy. 627-632A
- Grain growth, Cooling effects**
Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply. 3011-3016A
- Grain growth, Diffusion effects**
Growth of silicides and interdiffusion in the Mo-Si system. 545-550A
- Grain refinement**
The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature. 1613-1623A
Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm. 1625-1633A
- Grain size**
The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
Influence of grain size on the constitutive response and substructure evolution of Monel 400. 1235-1247A
Investigation of microstructural coarsening in Sn-Pb alloys. 1541-1547A
The effect of grain size and temperature on the superplastic deformation behavior of a 7075 Al alloy. 2037-2047A
The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. 2349-2367A
- Grain size, Alloying effects**
Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. 1185-1191A
- Grain size, Cooling effects**
Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys. 2941-2949A
- Grain size, Deformation effects**
Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy by repeated thermomechanical treatment to produce a heavily deformable material. 2221-2228A
Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A
- Grain size, Welding effects**
Fusion zone microstructure and porosity in electron beam welds of an α - β titanium alloy. 789-798A
Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
- Grain structure, Processing effects**
A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A
- Graphite, Composite materials**
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B
- Gray iron, Crystal growth**
Mathematical modeling of microstructural development in hypoeutectic cast iron. 2147-2158A
- Gray iron, Heat treatment**
Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation. 1211-1221A
- Hall Heroult process**
The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. 341-348B
- Hardness**
Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
Effect of matrix hardness on the creep properties of a 12CrMoV Nb steel. 2331-2339A
- Hardness, Composition effects**
A dual composite of WC-Co. 3231-3238A
- Hardness, Heating effects**
Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation. 1211-1221A
Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys. 2027-2035A
- Hardness, Microstructural effects**
Deformation of metastable austenite and resulting properties during the ausform-finishing of 1% carburized AISI 9310 steel gears. 183-193A

Hardness, Processing effects

- Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A
- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Hot explosive compaction of Mo-Ti alloys. 2483-2489A
- Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhodium. 2641-2648A
- Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels. 3263-3265A

Hardness, Radiation effects

- Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation. 3131-3141A

Hardness, Welding effects

- Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A
- Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A

Heat affected zone, Mechanical properties

- Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel. 2089-2096A
- Quantitative evaluation of softened regions in weld heat-affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process. 2115-2120A

Heat affected zone, Microstructure

- Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
- Direction of grain-boundary migration in the weld metal of an austenitic stainless steel. 621-626A
- Fusion zone microstructure and porosity in electron beam welds of an α - β titanium alloy. 789-798A
- A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A
- A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model. 2915-2929A

Heat affected zone, Phase transformations

- Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A

Heat of formation

- A thermodynamic interpretation of the size-ratio limits for Laves phase formation. 1449-1452A

Heat of mixing

- A self-consistent model for predicting interaction parameters in multicomponent alloys. 3099-3102A

Heat of transformation, Processing effects

- Transformation behavior of sintered porous NiTi alloys. 2753-2756A

Heat transfer

- Mathematical modeling of copper and brass upcasting. 75-98B
- A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. 119-133B
- Two-dimensional dynamic simulation of the thermal state of ladles. 323-330B
- The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. 473-482B
- Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
- Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. 505-513B
- On the mechanism of mushy layer formation during droplet-based processing. 527-539B
- Casting-chill interface heat transfer during solidification of an aluminum alloy. 773-778B
- Effect of heat and mass transfer on the thermal decomposition of SrCO_3 compacts. 901-908B
- Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. 979-985B
- Finite-element modeling of nonisothermal equal-channel angular extrusion. 1391-1402A

Hematite, Reactions (chemical)

- The precipitation of hematite from ferric chloride media at atmospheric pressure. 993-1001B

High carbon steels, Mechanical properties

- Microstructure-property relations in as-extruded ultrahigh-carbon steels. 1559-1568A
- Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. 2885-2893A
- Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation. 2895-2904A

High cycle fatigue, Microstructural effects

- Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy. 2659-2666A

High pressure

- Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A

High speed tool steels, Mechanical properties

- Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
- Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A

High strength low alloy steels, Mechanical properties

- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A
- The influence of tensile stress states on the failure of HY-100 steel. 2835-2842A
- The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A

High strength low alloy steels, Powder technology

- The mechanism of porous column formation during spray forming. 1679-1682A

High strength low alloy steels, Welding

- Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
- Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel. 2067-2072A

High strength steels, Extrusion

- Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures. 1425-1435A

High strength steels, Heat treatment

- The effect of ion implanting on hydrogen entry into metals. 1535-1540A

High strength steels, Mechanical properties

- The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
- Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history. 1882-1885A

High strength steels, Metal working

- A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A

High strength steels, Phase transformations

- An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel. 501-512A

High temperature

- Indentation power-law creep of high-purity indium. 601-610A
- A fine γ - α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A

Hot dip galvanizing

- Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A
- Distribution of aluminum in hot-dip galvanized coatings. 3031-3044A

Hot extrusion, Microstructural effects

- Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A

Hot forging

- Cavitation and failure during hot forging of Ti-6Al-4V. 1411-1424A

Hot isostatic pressing

- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α - γ phase field. 751-761A

Hot pressing

- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A

Hot spraying

- On the mechanism of mushy layer formation during droplet-based processing. 527-539B
- Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A

Hot working

- Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A

Hot working, Microstructural effects

- Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V. 3219-3229A

Hydrogen, Sorption

- The effect of ion implanting on hydrogen entry into metals. 1535-1540A

Hydrogen embrittlement

- The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I. 65-79A
- The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron. 155-159A
- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history. 1882-1885A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Hydrogen embrittlement, Deformation effects

- Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining. 1327-1331A

Hydrogen embrittlement, Heating effects

- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A

Hydrometallurgy

- Strategies for optimal operation of the tellurium electrowinning process. 5-13B
- Photocatalytic reduction of selenate and selenite solutions using TiO_2 powders. 15-20B
- A solution chemistry approach to the study of rare earth element precipitation by oxalic acid. 189-195B
- Preparation of ammonium chloroplatinate by a precipitation stripping of Pt(IV)-loaded Alamine 336 or TBP. 197-203B
- The precipitation of hematite from ferric chloride media at atmospheric pressure. 993-1001B

Hysteresis

- Strain dependence of pseudoelastic hysteresis of NiTi. 1275-1282A

Ilmenite, Beneficiation

- High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system. 695-705B
- Evaluation of a process that uses phosphate additions to upgrade titania slag. 823-826B

Ilmenite, Reduction (chemical)

- Carbothermic reduction of ilmenite (FeTiO_3) and rutile (TiO_2). 1075-1081B

Image analysis

- Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys. 2369-2381A

Impact, Coating effects

- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A

Impact strength, Deformation effects

- The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A

Impact strength, Microstructural effects

- Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. 1193-1202A

Inclusions

- Erratum: Investigation of inclusion re-entrainment from the steel-slag interface. 149B

Inclusions, Processing effects

- Analysis of size distributions of primary oxide inclusions in Fe-10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy. 259-270B

Indentation, Temperature effects

- Indentation power-law creep of high-purity indium. 601-610A

Indium, Mechanical properties

- Indentation power-law creep of high-purity indium. 601-610A

Indium, Ternary systems

- Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A

Induction coils, Design

- An induction heating process with coil design and solutions avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3% Mg alloy for thixoforming. 2967-2977A

Induction heating

- An induction heating process with coil design and solutions avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3% Mg alloy for thixoforming. 2967-2977A

Infiltration

- Fatigue and fracture of porous steels and Cu-infiltrated porous steels. 325-334A
- Infiltration of fibrous preforms by a pure metal. V. Influence of preform compressibility. 471-482A
- Reactive infiltration of silicon melt through microporous amorphous carbon preforms. 933-944B
- Modeling of composite growth in the directed aluminum melt nitridation process. 2951-2958A
- Fabrication and characteristics of AA6061/ Si_3N_4 composite by the pressureless infiltration technique. 2999-3007A

Ingot casting

- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A

Ingot, Crystal growth

- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A

Injection

- Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply. 349-352B
- Reduction of iron-silicon-oxy-sulfide by CO gas injection. 873-875B

- Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln. 969-977B

Inserts, Coating

- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A

Interface reactions

- Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- Erratum: Investigation of inclusion re-entrainment from the steel-slag interface. 149B
- Interface characterization of duplex metal-coated SiC fiber-reinforced Ti-15-3 matrix composites. 653-666A
- Interaction between nonstoichiometric titanium carbide and Fe-C alloys. 857-863B
- Degradation mechanism of SiC/super α_2 composite due to interfacial reaction. 2713-2720A

Interface reactions, Field effects

- Electrochemical interfacial phenomena under microgravity. II. Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution. 779-790B

Interface reactions, Heating effects

- Diffusional reactions during processing of Timetal 21S/ Al_2O_3 composites. 1437-1447A

Intergranular fracture

- The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I. 65-79A
- An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A

Intergranular fracture, Alloying effects

- Properties of the $\text{Ir}_{85}\text{Nb}_{15}$ two-phase refractory superalloys with nickel additions. 2629-2639A

Intergranular fracture, Deformation effects

- Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution. 3191-3199A

Intergranular fracture, Welding effects

- Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding. 417-426A

Interlayers, Materials selection

- Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A

Intermetallic phases

- $\beta \rightarrow \alpha'$ and $\beta \rightarrow \alpha$ transformations in Ti-Os alloys. 231-233A
- Thermodynamics of Ca-Ga alloys. 459-464B
- The neodymium-gold phase diagram. 1169-1176A
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Compositional characterization of Cu-rich phase particles present in as-cast Al-Cu-Mg(Li) alloys containing Ag. 1693-1704A
- Orientation relationship between β -Mn and L_{21} matrix in a Cu_2MnAl alloy. 1705-1716A

Intermetallic phases, Composition effects

- The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A

Intermetallic phases, Crystal growth

- Precipitation of an intermetallic phase with Pt_2Mo -type structure in alloy 625. 41-52A
- Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A

Intermetallic phases, Diffusion effects

- Diffusional reactions during processing of Timetal 21S/ Al_2O_3 composites. 1437-1447A

Intermetallic phases, Heating effects

- The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A

Intermetallic phases, Synthesis

- Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A

Intermetallics, Composite materials

- Wear behavior of in situ Al-based composites containing TiB_2 , Al_2O_3 , and Al_3Ti particles. 243-248A
- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A

Intermetallics, Mechanical properties

- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Intermetallics, Phase transformations

- Strain dependence of pseudoelastic hysteresis of NiTi. 1275-1282A
- Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Superheating behavior of NiAl: Authors' reply. 3265A

Internal oxidation, Environmental effects

- Role of gaseous environment and secondary precipitation in microstructural degradation of Cr-Mo steel weldments at high temperatures. 2103-2113A
- Interstitial free steels, Coating**
Distribution of aluminum in hot-dip galvanized coatings. 3031-3044A
- Interstitial free steels, Metal working**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Interstitial solutions, Heating effects**
Application of the cluster variation method to ordering in an interstitial solid solution: the γ -Fe[Ni]/ γ -Fe₄N_{1-x} equilibrium. 1945-1953A
- Investment casting**
A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A
- Ion implantation**
The effect of ion implanting on hydrogen entry into metals. 1535-1540A
Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
- Iridium base alloys, Mechanical properties**
Properties of the Ir₈₅Nb₁₅ two-phase refractory superalloys with nickel additions. 2629-2639A
- Iron, Alloying additive**
The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Iron, Binary systems**
Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A
- Iron, Coating**
Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Iron, Diffusion**
A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A
Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Iron, Extraction**
A study of the reduction rate of FeO in slag by solid carbon. 215-221B
Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B
Rate of reduction of Fe₂O₃-SiO₂-TiO₂ melts with CO gas. 827-829B
Thermodynamics and phase equilibria involving the spinel solid solution Fe₂Mg_{1-x}Cr₂O₄. 865-871B
Reduction of iron-silicon-oxy-sulfide by CO gas injection. 873-875B
Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron. 877-889B
- Iron, Mechanical properties**
The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron. 155-159A
- Iron, Powder technology**
Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2209-2220A
- Iron, Reactions (chemical)**
Thermodynamics of TiO_x in blast furnace-type slags. 29-43B
Thermodynamics of iron oxide in Fe₂O₃-dilute CaO+Al₂O₃+MgO+Fe₂O₃ slags at 1873K. 419-427B
Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B
Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B
The rate of reaction of solid iron with oxidized "FeO"-CaO-SiO₂-Al₂O₃ slags at 1360°C—the chemical diffusivity of iron oxide. 465-472B
Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B
- Iron, Recovering**
The precipitation of hematite from ferric chloride media at atmospheric pressure. 993-1001B
- Iron, Ternary systems**
Investigation of the surface of the liquidus of the Fe-Ni-S system at X_S<0.51. 715-722B
Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
The influence of temperature gradients on Ostwald ripening. 2341-2348A
Evaluation of interaction parameters in metallic solutions by the isoactivity method. 3103-3110A
- Iron and steel making**
Activity coefficient of nickel oxide in BaO-based slags. 143-144B
- Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO. 279-286B
- Two-dimensional dynamic simulation of the thermal state of ladles. 323-330B
- Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply. 349-352B
- Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt. 411-418B
- Thermodynamics of iron oxide in Fe₂O₃-dilute CaO+Al₂O₃+MgO+Fe₂O₃ slags at 1873K. 419-427B
- Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B
- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B
- The rate of reaction of solid iron with oxidized "FeO"-CaO-SiO₂-Al₂O₃ slags at 1360°C—the chemical diffusivity of iron oxide. 465-472B
- Discussion of "Decay of fluid motion in a filling ladle after tapping" and author's reply. 541-543B
- Height of the spout of a gas plume discharging from a metal melt. 655-660B
- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B
- A study of the sulfide capacities of iron-oxide containing slags. Phase-diagram study for the Al₂O₃-CaF₂-SiO₂ system. 909-920B
- Solubility of carbon in CaO-B₂O₃ and BaO-B₂O₃ slags. 921-925B
- 1045-1052B
- Iron compounds, Mechanical properties**
Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A
- Iron ores, Beneficiation**
Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of Al₂O₃, Fe₂O₃, and basicity in the sinter ore. 671-683B
Optimizing the operation of straight-grate iron-ore pellet induration systems using process models. 803-813B
- Iron ores, Reactions (chemical)**
Rate of reduction of Fe₂O₃-SiO₂-TiO₂ melts with CO gas. 827-829B
- Iron oxides, Reactions (chemical)**
Rate of reduction of Fe₂O₃-SiO₂-TiO₂ melts with CO gas. 827-829B
A study of the sulfide capacities of iron-oxide containing slags. 909-920B
- Iron oxides, Reduction (chemical)**
A study of the reduction rate of FeO in slag by solid carbon. 215-221B
Reduction of iron-silicon-oxy-sulfide by CO gas injection. 873-875B
Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron. 877-889B
- Ironmaking**
Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln. 969-977B
Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron. 1065-1074B
- Isothermal annealing**
A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A
- Isothermal treatment**
Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy. 1177-1184A
- Joints, Mechanical properties**
Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb. 2723-2726A
- Ladle metallurgy**
Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt. 411-418B
Height of the spout of a gas plume discharging from a metal melt. 655-660B
- Ladles, Thermal properties**
Two-dimensional dynamic simulation of the thermal state of ladles. 323-330B
- Lamellar structure**
Hot working of Ti-6Al-4V via equal channel angular extrusion. Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V. 2473-2481A
- Lamellar structure, Deformation effects**
Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire. 3219-3229A
- Laminates, Mechanical properties**
Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A

- Fabrication and evaluation of Nb/Nb₅Si₃ microlaminate foils. 2959-2965A
- Laser beam melting**
The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys. 1817-1826A
- Laser beam welding**
Quantitative evaluation of softened regions in weld heat-affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process. 2115-2120A
- Laser processing**
A study on laser sintering of Fe-Cu powder compacts. 2229-2235A
- Lattice parameters**
Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy. 697-705A
- Lattice parameters, Heating effects**
Application of the cluster variation method to ordering in an interstitial solid solution: the γ -Fe[Ni]/ γ -Fe₄N_{1-x} equilibrium. 1945-1953A
- Laves phase**
A thermodynamic interpretation of the size-ratio limits for Laves phase formation. 1449-1452A
- Lead (metal), Binary systems**
The influence of temperature gradients on Ostwald ripening. 2341-2348A
- Lead (metal), Reactions (chemical)**
Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B
- Lead (metal), Ternary systems**
Thermodynamic modeling of the palladium-lead-tin system. 5-18A
Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Lead (metal), Thermal properties**
Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals. 1971-1979A
- Lead base alloys, Crystal growth**
Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field. 1809-1815A
- Lead base alloys, Directional solidification**
Cell/dendrite distribution in directionally solidified hypoeutectic Pb-Sb alloys. 2159-2165A
Macroscopic segregation caused by thermosolutal convection during directional solidification of Pb-Sb alloys. 2167-2171A
Cellular/dendritic array tip morphology during directional solidification of Pb-5.8 wt.% Sb alloy. 2463-2472A
- Lead base alloys, Microstructure**
Texture evolution and the role of grain boundaries in skeletal formation during coarsening in solid-liquid mixtures. 1955-1969A
- Lead compounds, Ternary systems**
Experimental study of phase equilibria in the system PbO-ZnO-SiO₂. 21-27B
- Levitation casting**
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Levitation melting**
Superheating behavior of NiAl: Authors' reply. 3265A
- Life cycle assessment**
Sustainability: the materials role. 157-170B
- Lime, Reactions (chemical)**
A study of the sulfide capacities of iron-oxide containing slags. 909-920B
- Liquid flow**
Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply. 349-352B
Toward a probe for velocity measurement in molten metals at high temperatures. 623-630B
Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath. 631-637B
Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model. 1095-1105B
- Liquid flow, Field effects**
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Liquid metals, Physical properties**
Turbulence structure of bottom-blowing bubbling jet in a molten Wood's metal bath. 61-66B
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply. 349-352B
Discussion of "Decay of fluid motion in a filling ladle after tapping" and authors' reply. 541-543B
Toward a probe for velocity measurement in molten metals at high temperatures. 623-630B
Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath. 631-637B
Analyses of the dynamic processes of liquid metal filtration. 891-900B
The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres. 1027-1032B
- Liquid metals, Quality control**
Study of electromagnetic separation of nonmetallic inclusions from aluminum melt. 2979-2988A
- Liquid metals, Reactions (chemical)**
Thermodynamics of TiO₂ in blast furnace-type slags. 29-43B
Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO. 279-286B
Thermodynamics of iron oxide in Fe₂O-dilute CaO-Al₂O₃-MgO-Fe₂O slags at 1873K. 419-427B
Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B
A thermodynamic database for copper smelting and converting. 661-669B
Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron. 877-889B
Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B
Triggering steam explosions of single drops of a molten ferro-silicon alloy with a simple encapsulated mechanical impactor. 1083-1088B
- Liquid metals, Thermal properties**
Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals. 1971-1979A
- Liquid phase sintering**
Anomalous pore morphologies in liquid-phase-sintered Al-Zn alloys. 1682-1685A
Densification during the supersolidus liquid-phase sintering of nickel-based prealloyed powder mixtures. 2201-2208A
Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2209-2220A
Densification and shape distortion in liquid-phase sintering. 3211-3217A
- Liquidus**
The effect of MgO on liquidus temperatures of fayalite slags. 1017-1026B
- Long range order, Heating effects**
Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A
- Low alloy steels, Mechanical properties**
Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. 1193-1202A
- Low alloy steels, Phase transformations**
Thermodynamic prediction of the eutectoid transformation temperatures of low-alloy steels. 2325-2330A
- Low carbon steels, Coating**
Nickel monoaluminide coating on ultra-low-carbon steel by reactive sintering. 1605-1612A
Distribution of aluminum in hot-dip galvanized coatings. 3031-3044A
- Low carbon steels, Mechanical properties**
Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys. 81-92A
Erosion of SS41 steel by sand blasting. 941-948A
- Low carbon steels, Metal working**
A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- Low carbon steels, Phase transformations**
A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon steel. 107-117B
- Low carbon steels, Steel making**
Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of CaO-MgO-SiO₂-Al₂O₃-Fe₂O-MnO-P₂O₅. 435-442B
- Low cycle fatigue**
Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy. 887-890A
- Low cycle fatigue, Processing effects**
Low-cycle dwell-time fatigue in Ti-6242. 2383-2389A
- Luders lines, Deformation effects**
Deformation bands, the LEDS theory, and their importance in texture development. II. Theoretical conclusions. 2391-2401A

Magnesium, Alloying additive		
Surface oxide and the role of magnesium during the sintering of aluminum.	457-463A	
The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures.	551-561A	
Magnesium, Alloying elements		
Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.	1549-1558A	
The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys.	2611-2618A	
Magnesium, Extraction		
Chlorination and carbochlorination of magnesium oxide.	383-391B	
Nonisothermal gravimetric investigation on kinetics of reduction of magnesia by aluminum.	1003-1008B	
Kinetics of oxychlorination of magnesium oxide.	1009-1015B	
Magnesium base alloys, Casting		
Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks.	723-729B	
Magnesium base alloys, Composite materials		
Creep behavior of an AZ91 magnesium alloy reinforced with alumina fibers.	2059-2066A	
Magnesium oxide, Impurities		
Dispersion of fine primary inclusions of MgO and ZrO ₂ in Fe-10 mass% Ni alloy and the solidification structure.	1053-1063B	
Magnesium oxide, Reactions (chemical)		
A study of the sulfide capacities of iron-oxide containing slags.	909-920B	
Kinetics of oxychlorination of magnesium oxide.	1009-1015B	
The effect of MgO on liquidus temperatures of fayalite slags.	1017-1026B	
Magnesium oxide, Reduction (chemical)		
Chlorination and carbochlorination of magnesium oxide.	383-391B	
Nonisothermal gravimetric investigation on kinetics of reduction of magnesia by aluminum.	1003-1008B	
Magnetic domains		
Magnetic transformation of Ni ₂ AlMn Heusler-type shape memory alloys.	2721-2723A	
Magnetic fields		
Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field.	1809-1815A	
Manganese, Diffusion		
Multicomponent diffusion simulation based on finite elements.	2575-2582A	
Manganese compounds, Phase transformations		
Magnetic transformation of Ni ₂ AlMn Heusler-type shape memory alloys.	2721-2723A	
Manganese compounds, Reactions (chemical)		
Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.	279-286B	
Martensite		
Effect of deformation on the damping capacity in an Fe-23% Mn alloy.	667-670A	
Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels.	1193-1202A	
Martensitic stainless steels, Mechanical properties		
Growth of small fatigue cracks in PH 13-8 Mo stainless steel.	1289-1300A	
Martensitic transformations		
Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals.	493-499A	
Microstructure and martensitic transformations in a dual-phase α/β Cu-Zn alloy.	729-739A	
Kinetics of homogeneous martensitic nucleation in iron-based alloys.	884-887A	
Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading.	1933-1943A	
Magnetic transformation of Ni ₂ AlMn Heusler-type shape memory alloys.	2721-2723A	
Martensitic transformations, Alloying effects		
Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.	2599-2604A	
Martensitic transformations, Deformation effects		
Strain dependence of pseudoelastic hysteresis of NiTi.	1275-1282A	
Martensitic transformations, Heating effects		
Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.	1177-1184A	
Martensitic transformations, Processing effects		
Transformation behavior of sintered porous NiTi alloys.	2753-2756A	
Martensitic transformations, Stress effects		
Stress-induced products in a Ti-14.8V alloy deformed in tension.	2249-2251A	
Interaction energy between martensitic variants.	2583-2590A	
Martensitic transformations, Welding effects		
Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel.	161-174A	
The role of phase transformation in electron-beam welding of TiAl-based alloys.		1717-1726A
Mass transfer		
Model study on mixing and mass transfer in ferroalloy refining processes.		231-239B
Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys.		505-513B
Effect of heat and mass transfer on the thermal decomposition of SrCO ₃ compacts.		901-908B
Materials conservation		
Sustainability: The materials role.		895-908A
Mathematical analysis		
Turbulence structure of bottom-blowing bubbling jet in a molten Wood's metal bath.		61-66B
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material.		371-376A
A thermally coupled flow formulation with microstructural evolution for hypoeutectic cast-iron solidification.		731-744B
Measurement of liquid permeability in the mushy zones of aluminum-copper alloys.		745-750B
Discussion of "Reconsideration of error in the analysis of the wake dislocation problem" and authors' response.		1452-1459A
Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source.		1597-1603A
Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method.		1827-1833A
Interaction energy between martensitic variants.		2583-2590A
Evaluation of the methods for calculating the concentration-dependent diffusivity in binary systems.		2605-2610A
Open-die forging of structurally porous sandwich panels.		2689-2699A
Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.		2875-2884A
Approximate models of microsegregation with coarsening.		3016-3019A
Evaluation of interaction parameters in metallic solutions by the isoactivity method.		3103-3110A
Mathematical models		
Thermodynamic modeling of the palladium-lead-tin system.		5-18A
The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.		65-79A
An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na ₂ O-K ₂ O-SiO ₂ .		67-74B
Mathematical modeling of copper and brass upcasting.		75-98B
A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon steel.		107-117B
A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.		119-133B
A mathematical model for surface segregation in aluminum direct chill casting.		135-142B
Settling of multisized clusters of alumina particulates in liquid aluminum.		241-247B
Thermodynamic calculation for alloy systems.		271-277B
Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.		279-286B
Two-dimensional dynamic simulation of the thermal state of ladles.		323-330B
A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model.		331-339B
Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply.		349-352B
Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts.		465-470A
Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.		483-493B
Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys.		505-513B
Mathematical modeling of a melt pool driven by an electron beam.		515-525B
On the mechanism of mushy layer formation during droplet-based processing.		527-539B
Discussion of "Decay of fluid motion in a filling ladle after tapping" and author's reply.		541-543B
Numerical calculation of the permeability in a dendritic mushy zone.		613-622B
Direction of grain-boundary migration in the weld metal of an austenitic stainless steel.		621-626A
Modeling of inclusion removal in a tundish.		639-654B
Cavity sequences in continuously cast billets. II. Stochastic models.		763-772B
Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding.		791-801B
Optimizing the operation of straight-grate iron-ore pellet induration systems using process models.		803-813B

- Analysis of temperature and microstructure in the quenching of steel cylinders. 815-822B
- Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 869-878A
- A study of the sulfide capacities of iron-oxide containing slags. An analytical model for nodular eutectic grain predictions during solidification. 909-920B
- Mathematical model for nitrogen control in oxygen steelmaking. 927-932B
- Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 945-956B
- LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe. 949-959A
- Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln. 957-967B
- Use of microstructural statistics in predicting polycrystalline material properties. 969-977B
- An intergranular creep crack growth model based on grain boundary sliding. 969-979A
- A process model for the microstructure evolution in ductile cast iron. I. The model. 1039-1045A
- A process model for the microstructure evolution in ductile cast iron. II. Applications of the model. 1053-1068A
- Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model. 1069-1079A
- Erratum to "Numerical calculation of the permeability in a dendritic mushy zone". 1095-1105B
- A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model. 1107B
- A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1147-1151A
- Considering particle morphology in a constitutive model for metal powders compaction. 1153-1157A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1159-1162A
- Influence of grain size on the constitutive response and substructure evolution of Monel 400. 1203-1209A
- Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates. 1235-1247A
- Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1283-1288A
- Finite-element modeling of nonisothermal equal-channel angular extrusion. 1301-1313A
- Cavitation and failure during hot forging of Ti-6Al-4V. 1391-1402A
- Thermodynamic modeling of the nickel-lead-tin system. 1411-1424A
- Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1481-1494A
- Modeling solid-particle erosion of ductile alloys. 1663-1673A
- A general numerical method to solve for dislocation configurations. 1763-1774A
- Mathematical modeling of microstructural development in hypoeutectic cast iron. 2073-2087A
- A unified model of microsegregation and coarsening. 2147-2158A
- Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2183-2189A
- Fifty-year study of grain-boundary relaxation. 2209-2220A
- Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys. 2267-2295A
- Deformation bands, the LEDS theory, and their importance in texture development. II. Theoretical conclusions. 2369-2381A
- Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observations. 2391-2401A
- Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2491-2501A
- A numerical model of peritectoid transformation. 2513-2522A
- Multicomponent diffusion simulation based on finite elements. 2563-2573A
- A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2575-2582A
- Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2619-2627A
- The influence of internal stresses on the fracture toughness of α/β titanium alloys. 2701-2712A
- A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model. 2853-2863A
- Modeling of composite growth in the directed aluminum melt nitriding process. 2915-2929A
- A self-consistent model for predicting interaction parameters in multicomponent alloys. 2951-2958A
- Mattes, Reactions (chemical)**
- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 3099-3102A
- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 443-450B
- Mechanical alloying**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 831B
- Closure-affected fatigue crack propagation behaviors of powder metallurgy-processed Al-Li alloys in various environments. 751-761A
- 2097-2102A
- Medium carbon steels, Casting**
- Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B
- Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B
- Melting**
- Superheating behavior of NiAl: Authors' reply. 3265A
- Mercury, Melting**
- Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt. 411-418B
- Mercury, Physical properties**
- A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model. 331-339B
- Mercury, Thermal properties**
- Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals. 1971-1979A
- Metallic glasses, Mechanical properties**
- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A
- Metallurgy**
- Greenhouse gases and the metallurgical process industry. 841-856B
- Metastable phases**
- Deformation of metastable austenite and resulting properties during the ausform-finish of 1% carburized AlSi 9310 steel gears. 183-193A
- $\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. 231-233A
- Metastable phases, Cooling effects**
- Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys. 2941-2949A
- Microcracks**
- Application of image processing for simulation of mechanical response of multi-length scale microstructures of engineering alloys. 2369-2381A
- Microgravity**
- Electrochemical interfacial phenomena under microgravity. II. Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution. 779-790B
- Anomalous pore morphologies in liquid-phase-sintered Al-Zn alloys. 1682-1685A
- Discussion of "Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply. 1887-1894A
- Dendritic growth tip velocities and radii of curvature in microgravity. 3177-3194A
- Microhardness**
- Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb. 2723-2726A
- Microhardness, Heating effects**
- Phase transformation of Zn-4Al-3Cu alloy during heat treatment. 917-923A
- Microstructure, Processing effects**
- The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys. 1817-1826A
- Miscibility**
- Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
- Modulus of elasticity, Temperature effects**
- Temperature and composition dependence of the elastic constants of Ni₃Al. 2403-2408A
- Molybdenum, Binary systems**
- A numerical model of peritectoid transformation. 2563-2573A
- Molybdenum, Coating**
- Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A
- Molybdenum, Composite materials**
- Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep. 2989-2997A
- Molybdenum, Diffusion**
- Growth of silicides and interdiffusion in the Mo-Si system. 545-550A
- Molybdenum, Ternary systems**
- Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1785-1795A
- Experimental study and thermodynamic assessment of the Ni-Mo-Ta ternary system. 2735-2744A
- Molybdenum base alloys, Powder technology**
- Hot explosive compaction of Mo-Ti alloys. 2483-2489A
- Molybdenum compounds, Crystal growth**
- Growth of silicides and interdiffusion in the Mo-Si system. 545-550A

Molybdenum compounds, Thin films

- Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A

Morphology

- Precipitation of an intermetallic phase with Pt_2Mo -type structure in alloy 625. 41-52A
- Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
- Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A
- The Alstruc microstructure solidification model for industrial aluminum alloys. 2135-2146A
- Mathematical modeling of microstructural development in hypoeutectic cast iron. 2147-2158A
- Cellular/dendritic array tip morphology during directional solidification of Pb-5.8 wt.% Sb alloy. 2463-2472A

Morphology, Alloying effects

- The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy. 627-632A
- Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A
- Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy. 1923-1931A

Morphology, Coating effects

- Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A

Morphology, Cooling effects

- Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B

Morphology, Deformation effects

- Influence of pressing speed on microstructural development in equal-channel angular pressing. 1989-1997A
- Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A
- Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C. 2843-2852A

Morphology, Heating effects

- Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A

Morphology, Welding effects

- Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
- Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
- A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A
- A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model. 2915-2929A

Necking

- Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C. 2843-2852A

Neodymium, Binary systems

- The neodymium-gold phase diagram. 1169-1176A

Nickel, Alloying additive

- Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A
- Properties of the $Ir_{85}Nb_{15}$ two-phase refractory superalloys with nickel additions. 2629-2639A

Nickel, Binary systems

- Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
- The influence of temperature gradients on Ostwald ripening. A numerical model of peritectoid transformation. 2341-2348A
- Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2563-2573A
- Directional solidification and phase equilibria in the Ni-Al system. 2783-2789A

Nickel, Bonding

- Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system. 3111-3124A

Nickel, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A
- Evaluation of the methods for calculating the concentration-dependent diffusivity in binary systems. 2605-2610A

Nickel, Powder technology

- Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A
- Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2209-2220A

Nickel, Reactions (chemical)

- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B

- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B

Nickel, Ternary systems

- Investigation of the surface of the liquidus of the Fe-Ni-S system at $X_S < 0.51$. 715-722B
- Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1785-1795A
- Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
- Experimental study and thermodynamic assessment of the Ni-Mo-Ta ternary system. 2735-2744A

Nickel base alloys, Bonding

- Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system. 3111-3124A

Nickel base alloys, Coating

- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A

Nickel base alloys, Coatings

- Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A

Nickel base alloys, Crystal growth

- Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 1885-1887A
- Liquid-solid partition ratios in nickel-base alloys. 2173-2181A

Nickel base alloys, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A

Nickel base alloys, Directional solidification

- Directional solidification and phase equilibria in the Ni-Al system. 3167-3175A

Nickel base alloys, Heat treatment

- Evaluation of halide-activated pack boriding of Inconel 722. 670-675A

Nickel base alloys, Mechanical properties

- Cavitation erosion of NiAl. 335-343A
- The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A
- High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals. 587-600A
- Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys. 991-1001A
- Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy. 1003-1015A
- An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A
- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
- Influence of grain size on the constitutive response and substructure evolution of Monel 400. 1235-1247A
- Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Effect of small amounts of nitrogen on properties of a Ni-based superalloy. 1755-1761A
- Modeling solid-particle erosion of ductile alloys. 1763-1774A
- Temperature and composition dependence of the elastic constants of Ni_3Al . 2403-2408A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A

Nickel base alloys, Melting

- Discussion of "Superheating behavior of NiAl". 1675A

Nickel base alloys, Metal working

- Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A

Nickel base alloys, Metallography

- Transmission x-ray diffraction of single-crystal nickel-base superalloys. 1880-1882A

Nickel base alloys, Microstructure

- Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C. 2843-2852A

Nickel base alloys, Oxidation

- The effect of water vapor on the oxidation of alloys that develop alumina scales for protection. 2905-2913A

Nickel base alloys, Phase transformations

- Effect of cold rolling on the precipitation behavior of δ phase in Inconel 718. 31-40A

- Precipitation of an intermetallic phase with Pt_2Mo -type structure in alloy 625. 41-52A
- Characterization and modeling of the precipitation of the sigma phase in Udimet 720 and Udimet 720LI. 521-533A
- Strain dependence of pseudoelastic hysteresis of NiTi. 1275-1282A
- Magnetic transformation of Ni_2AlMn Heusler-type shape memory alloys. 2721-2723A
- Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Superheating behavior of NiAl: Authors' reply. 3265A
- Nickel base alloys, Phases (state of matter)**
- Prediction and characterization of variant electron diffraction patterns for γ' and δ precipitates in an Inconel 718 alloy. 2297-2303A
- Nickel base alloys, Powder technology**
- Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Densification during the supersolidus liquid-phase sintering of nickel-based prealloyed powder mixtures. 2201-2208A
- Nickel base alloys, Structural hardening**
- Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy. 1923-1931A
- Nickel base alloys, Thermal properties**
- Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC. 2803-2808A
- Nickel base alloys, Welding**
- Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding. 417-426A
- The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A
- Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy. 1797-1808A
- Nickel chromium molybdenum steels, Extrusion**
- Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures. 1425-1435A
- Nickel chromium molybdenum steels, Heat treatment**
- The effect of ion implanting on hydrogen entry into metals. 1535-1540A
- Nickel chromium molybdenum steels, Mechanical properties**
- The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
- The influence of tensile stress states on the failure of HY-100 steel. 2835-2842A
- Nickel chromium molybdenum steels, Metal working**
- Deformation of metastable austenite and resulting properties during the ausform-finish of 1% carburized AISI 9310 steel gears. 183-193A
- Nickel compounds, Bonding**
- Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu-Ni system. 3111-3124A
- Nickel compounds, Coatings**
- Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering. 1605-1612A
- Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A
- Nickel compounds, Directional solidification**
- Directional solidification and phase equilibria in the Ni-Al system. 3167-3175A
- Nickel compounds, Mechanical properties**
- Cavitation erosion of NiAl. 335-343A
- High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals. 587-600A
- Deformation and fracture behavior of a directionally solidified β/γ Ni-30 at.% Al alloy. 1003-1015A
- Temperature and composition dependence of the elastic constants of Ni_3Al . 2403-2408A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A
- Nickel compounds, Melting**
- Discussion of "Superheating behavior of NiAl". 1675A
- Nickel compounds, Phase transformations**
- Strain dependence of pseudoelastic hysteresis of NiTi. 1275-1282A
- Magnetic transformation of Ni_2AlMn Heusler-type shape memory alloys. 2721-2723A
- Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Superheating behavior of NiAl: Authors' reply. 3265A
- Nickel compounds, Powder technology**
- Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Nickel iron, Mechanical properties**
- Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
- Niobium, Alloying additive**
- Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy. 1923-1931A
- Niobium, Composite materials**
- Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
- Fabrication and evaluation of Nb/Nb₅Si₃ microlaminate foils. 2959-2965A
- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A
- Niobium, Powder technology**
- Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A
- Niobium, Ternary systems**
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Niobium base alloys, Composite materials**
- Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
- Fabrication and evaluation of Nb/Nb₅Si₃ microlaminate foils. 2959-2965A
- Niobium base alloys, Mechanical properties**
- Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy. 579-585A
- Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys. 925-939A
- An investigation of the fatigue and fracture behavior of a Nb-12Al-44Ti-1.5Mo intermetallic alloy. 1025-1038A
- Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys". 1686A
- The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy. 2007-2018A
- Correction to erratum: Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid solution alloys. 3025A
- Niobium base alloys, Oxidation**
- Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings. 495-504B
- Niobium base alloys, Powder technology**
- Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Niobium compounds, Composite materials**
- Fatigue-crack propagation behavior of ductile/brittle laminated composites. 633-642A
- Fabrication and evaluation of Nb/Nb₅Si₃ microlaminate foils. 2959-2965A
- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A
- Niobium compounds, Mechanical properties**
- The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. 2349-2367A
- Niobium compounds, Oxidation**
- Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings. 495-504B
- Niobium compounds, Phase transformations**
- The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
- Niobium compounds, Powder technology**
- Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Nitrides, Coatings**
- Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Nitrides, Heating effects**
- The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A
- Nitriding**
- The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A
- Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
- Application of the cluster variation method to ordering in an interstitial solid solution: the γ -Fe[Ni] γ -Fe₄N_{1-x} equilibrium. 1945-1953A
- Nitrogen, Alloying additive**
- Effect of small amounts of nitrogen on properties of a Ni-based superalloy. 1755-1761A
- Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. 2599-2604A
- Nitrogen, Alloying elements**
- Mathematical model for nitrogen control in oxygen steelmaking. 945-956B
- Nitrogen, Diffusion**
- Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
- Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
- Nitrogen, Reactions (chemical)**
- Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B

- Nodular iron, Crystal growth**
An analytical model for nodular eutectic grain predictions during solidification. 927-932B
- Nodular iron, Mechanical properties**
Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A
Eutectic cell wall morphology and tensile embrittlement in ferritic spheroidal graphite cast iron. 1775-1784A
- Nodular iron, Phase transformations**
A process model for the microstructure evolution in ductile cast iron. I. The model. 1053-1068A
A process model for the microstructure evolution in ductile cast iron. II. Applications of the model. 1069-1079A
Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A
- Nonferrous castings, Crystal growth**
Mathematical modeling of copper and brass upcasting. 75-98B
Modeling the fluid-flow-induced stress and collapse in a dendritic network. 287-293B
High-energy x-ray computed tomography of the progression of the solidification front in pure aluminum. 1403-1409A
- Nonferrous castings, Mechanical properties**
The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A
The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy. 3079-3088A
- Nonferrous castings, Microstructure**
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Nonferrous castings, Quality control**
The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. 473-482B
- Nonferrous metals, Extraction**
High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Nonmetallic inclusions**
Modeling of inclusion removal in a tundish. 639-654B
Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B
Study of electromagnetic separation of nonmetallic inclusions from aluminum melt. 2979-2988A
- Nonmetallic inclusions, Composition effects**
Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A
- Nonmetallic inclusions, Processing effects**
Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, T, Al, Zr, and Ce. 249-257B
- Notch strength**
Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 949-959A
- Notch toughness, Deformation effects**
The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A
- Nuclear fuels**
Preparation and physical characteristics of a lithium-beryllium-substituted fluorapatite. 147-153A
- Nuclear reactor components, Welding**
Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A
- Nucleation**
Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy. 579-585A
Kinetics of homogeneous martensitic nucleation in iron-based alloys. 884-887A
An analytical model for nodular eutectic grain predictions during solidification. 927-932B
Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron. 1065-1074B
Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature. 1613-1623A
Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm. 1625-1633A
Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field. 2591-2598A
- The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling. 2767-2781A
- Nucleation, Pressure effects**
Pore nucleation in solidifying high-purity copper. 2449-2453A
- Nucleation, Temperature effects**
Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method. 1827-1833A
- Open die forging**
Open-die forging of structurally porous sandwich panels. 2689-2699A
- Order disorder, Coating effects**
Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Orientation relationships**
Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy. 697-705A
Use of microstructural statistics in predicting polycrystalline material properties. 969-979A
Orientation relationship between β -Mn and $L2_1$ matrix in a Cu_2MnAl alloy. 1705-1716A
The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling. 2767-2781A
- Orientation relationships, Heating effects**
Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
- Osmium, Binary systems**
 $\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. 231-233A
- Ostwald ripening**
Aging behavior of an Al-Li-Cu-Mg-Zr alloy. 741-749A
- Ostwald ripening, Temperature effects**
The influence of temperature gradients on Ostwald ripening. 2341-2348A
- Oxidation rate**
Simultaneous oxidation and sigma-phase formation in a stainless steel. 355-362A
- Oxidation resistance, Alloying effects**
Surface oxide and the role of magnesium during the sintering of aluminum. 457-463A
- Oxidation resistance, Coating effects**
Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings. 495-504B
Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A
- Oxidation resistance, Processing effects**
Microprecipitate synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels. 3263-3265A
- Oxygen, Environment**
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
- Oxygen steel making, Quality control**
Mathematical model for nitrogen control in oxygen steelmaking. 945-956B
- Painting**
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
- Paints, Heat treatment**
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
- Palladium, Ternary systems**
Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- Panels, Coating**
Distribution of aluminum in hot-dip galvanized coatings. 3031-3044A
- Panels, Forging**
Open-die forging of structurally porous sandwich panels. 2689-2699A
- Partial pressure**
Pore nucleation in solidifying high-purity copper. 2449-2453A
- Particle shape**
Considering particle morphology in a constitutive model for metal powders compaction. 1159-1162A
Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys. 1261-1273A
- Particle size**
Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys. 1261-1273A
Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A
- Particle size, Composition effects**
The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A

Particle size distribution

- Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B

Particle size distribution, Processing effects

- Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, Ti, Al, Zr, and Ce. 249-257B
- Analysis of size distributions of primary oxide inclusions in Fe-10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy. 259-270B

Particulate composites, Casting

- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. 361-367B
- Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. 369-373B
- Fabrication and characteristics of AA6061/ Si_3N_4 composite by the pressureless infiltration technique. 2999-3007A

Particulate composites, Crystal growth

- Discussion of "Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply. 1887-1894A

Particulate composites, Extrusion

- Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state. 1137-1146A

Particulate composites, Mechanical properties

- Wear behavior of in situ Al-based composites containing TiB_2 , Al_2O_3 , and Al_3Ti particles. 243-248A
- Fundamental aspects of creep in metal matrix composites. Synergistic effects of wear and corrosion for Al_2O_3 particulate-reinforced 6061 aluminum matrix composites. 315-324A
- Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum. 643-651A
- Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation. 829-838A
- Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 845-855A
- Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 857-867A
- Processing copper and silver matrix composites by electroless plating and hot pressing. 869-878A
- High-temperature mechanical behavior of Ti-6Al-4V alloy and $TiC_2/Ti-6Al-4V$ composite. 1119-1136A
- Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 1569-1578A
- Wear of Al-based hybrid composites containing BN and SiC particulates. 2523-2538A
- Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep. 2551-2555A
- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/ Cr_2Nb in situ composites. 2989-2997A
- Wear behavior of Al- Al_3Ti composite manufactured by a centrifugal method. 3239-3251A
- 3253-3261A

Particulate composites, Microstructure

- Settling of multisized clusters of alumina particulates in liquid aluminum. 241-247B

Particulate composites, Phase transformations

- Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite. 2539-2545A

Particulate composites, Reactions (chemical)

- Interaction between nonstoichiometric titanium carbide and Fe-C alloys. 857-863B

Particulate composites, Synthesis

- A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model. 1147-1151A
- A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1153-1157A

Particulate composites, Thermal properties

- Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites. 2875-2884A

Passivation, Alloying effects

- Surface oxide and the role of magnesium during the sintering of aluminum. 457-463A

Passivation, Environmental effects

- The effect of water vapor on the oxidation of alloys that develop alumina scales for protection. 2905-2913A

Pearlite

- Microstructure-property relations in as-extruded ultrahigh-carbon steels. 1559-1568A

Pearlite, Crystal growth

- The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling. 2767-2781A

Pelleting

- Optimizing the operation of straight-grate iron-ore pellet induration systems using process models. 803-813B

Penetration, Coating effects

- Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061. 2191-2199A

Peritectic reactions

- The neodymium-gold phase diagram. 1169-1176A

Peritectoid reactions

- A numerical model of peritectoid transformation. 2563-2573A

Permanent mold casting

- Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B
- The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A

Permanent mold casting, Quality control

- The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. 473-482B

Permanent mold castings, Microstructure

- Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B

Permanent mold castings, Quality control

- The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. 473-482B

Permeability

- Numerical calculation of the permeability in a dendritic mushy zone. 613-622B
- Erratum to "Numerical calculation of the permeability in a dendritic mushy zone". 1107B
- Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures. 2455-2462A

Permeability, Microstructural effects

- Measurement of liquid permeability in the mushy zones of aluminum-copper alloys. 745-750B

pH

- Quantitative analysis of the relative basicity of CaO and BaO by silver solubility in slags. 689-694B

Phase decomposition

- The neodymium-gold phase diagram. 1169-1176A

Phase decomposition, Heating effects

- Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C. 345-353A

Phase diagram reactions

- A process model for the microstructure evolution in ductile cast iron. I. The model. 1053-1068A
- A process model for the microstructure evolution in ductile cast iron. II. Applications of the model. 1069-1079A

Phase diagram reactions, Heating effects

- Phase transformation of Zn-4Al-3Cu alloy during heat treatment. 917-923A

Phase diagram reactions, Pressure effects

- Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A

Phase diagram reactions, Processing effects

- Directional solidification and phase equilibria in the Ni-Al system. 3167-3175A

Phase diagrams

- Phase-diagram study for the Al_2O_3 -CaF₂-SiO₂ system. 921-925B
- Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
- The neodymium-gold phase diagram. 1169-1176A
- Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A
- Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1785-1795A
- Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
- Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A

Phase separation

- Ordering transformation and spinodal decomposition in Au-Ni alloys. 707-716A

Phase stability, Heating effects

- Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A

Phase stability, Size effects

- Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A

Phosphorus, Trace elements

- Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A

Photocatalysis

Photocatalytic reduction of selenate and selenite solutions using TiO_2 powders.

15-20B

Physical chemistry

Thermodynamics of iron oxide in Fe_2O_3 -dilute

$\text{CaO}+\text{Al}_2\text{O}_3+\text{MgO}+\text{Fe}_2\text{O}_3$ slags at 1873K.

419-427B

Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K.

429-433B

Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of $\text{CaO}-\text{MgO}-\text{SiO}_2-\text{Al}_2\text{O}_3-\text{Fe}_2\text{O}_3-\text{MnO}-\text{P}_2\text{O}_5$.

435-442B

Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes.

443-450B

A thermodynamic study of $\text{BaO}-\text{BaF}_2-\text{Cr}_2\text{O}_3$ system fluxes used for dephosphorization of chromium-containing iron melts.

451-457B

Thermodynamics of Ca-Ga alloys.

459-464B

The rate of reaction of solid iron with oxidized "FeO"- $\text{CaO}-\text{SiO}_2-\text{Al}_2\text{O}_3$ slags at 1360°C—the chemical diffusivity of iron oxide.

465-472B

A thermodynamic database for copper smelting and converting.

661-669B

Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of Al_2O_3 , Fe_2O_3 , and basicity in the sinter ore.

671-683B

High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system.

695-705B

High-temperature phase relations and thermodynamics in the silver-tin-sulfur system.

707-714B

Investigation of the surface of the liquidus of the Fe-Ni-S system at $X_S < 0.51$.

715-722B

Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes".

831B

Effect of heat and mass transfer on the thermal decomposition of SrCO_3 compacts.

901-908B

A study of the sulfide capacities of iron-oxide containing slags. Phase-diagram study for the $\text{Al}_2\text{O}_3-\text{CaF}_2-\text{SiO}_2$ system.

909-920B

The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres.

1027-1032B

Thermodynamic modeling of lead distribution among matte, slag, and liquid copper.

1033-1044B

Solubility of carbon in $\text{CaO}-\text{B}_2\text{O}_3$ and $\text{BaO}-\text{B}_2\text{O}_3$ slags.

1045-1052B

Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure.

1053-1063B

Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron.

1065-1074B

Carbothermic reduction of ilmenite (FeTiO_3) and rutile (TiO_2).

1075-1081B

A self-consistent model for predicting interaction parameters in multicomponent alloys.

3099-3102A

Evaluation of interaction parameters in metallic solutions by the isoactivity method.

3103-3110A

Physical simulation

Model study on mixing and mass transfer in ferroalloy refining processes.

231-239B

A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model.

331-339B

Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt.

411-418B

A new hot-tearing criterion.

449-455A

Numerical calculation of the permeability in a dendritic mushy zone.

613-622B

Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath.

631-637B

Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments.

979-985B

Erratum to "Numerical calculation of the permeability in a dendritic mushy zone".

1107B

Dendritic growth tip velocities and radii of curvature in microgravity.

3177-3190A

Physical vapor deposition

Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings.

427-435A

Mathematical modeling of a melt pool driven by an electron beam.

515-525B

Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.

799-806A

Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties.

2931-2939A

Pig iron, Reactions (chemical)

Evaluation of a process that uses phosphate additions to upgrade titania slag.

823-826B

Pipelines, Mechanical properties

The influence of rolling practice on notch toughness and texture development in high-strength linepipe.

3045-3054A

Plasma processing

Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels.

3263-3265A

Plastic deformation

Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation.

53-64A

Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights.

777-779A

Deformation behavior of silicon.

1465-1479A

Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite.

2539-2545A

Plastic deformation, Composition effects

Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.

123-132A

Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.

857-867A

Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling.

869-878A

Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites.

3239-3251A

Plastic deformation, High temperature effects

High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals.

587-600A

Plastic deformation, Microstructural effects

The effect of grain size and temperature on the superplastic deformation behavior of a 7075 Al alloy.

2037-2047A

Hot working of Ti-6Al-4V via equal channel angular extrusion.

2473-2481A

Plastic deformation, Temperature effects

Influence of the temperature on the plastic deformation in TiAl.

2865-2873A

Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.

2989-2997A

Plastic flow

Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel.

3069-3078A

Plastic flow, Composition effects

Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites.

3239-3251A

Plastic flow, Microstructural effects

Effect of initial microstructure on plastic flow and dynamic globalization during hot working of Ti-6Al-4V.

3219-3229A

Plasticity

Deformation bands, the LEDS theory, and their importance in texture development. II. Theoretical conclusions.

2391-2401A

A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process.

2619-2627A

Plasticity, Composition effects

Plasticity of continuous fiber-reinforced metals.

1843-1866A

Plasticity, Processing effects

Low-cycle dwell-time fatigue in Ti-6242.

2383-2389A

Plasticity, Temperature effects

Dislocations, kink bands, and room-temperature plasticity of Ti_3SiC_2 .

1727-1738A

Plating baths

Characteristics of continuous-galvanizing baths.

144-148B

Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.

437-448A

Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.

681-695A

Platinum, Diffusion

Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V.

2121-2127A

Platinum, Dopants

The effect of ion implanting on hydrogen entry into metals.

1535-1540A

Platinum, Recovering

Preparation of ammonium chloroplatinate by a precipitation stripping of Pt(IV)-loaded Alamine 336 or TBP.

197-203B

Platinum base alloys, Coatings

Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy.

2679-2687A

Platinum compounds, Coatings

Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy.

2679-2687A

Poissons ratio, Temperature effects

Temperature and composition dependence of the elastic constants of Ni_3Al .

2403-2408A

Pole figures

Prediction of yield surfaces of textured sheet metals.

377-386A

Use of microstructural statistics in predicting polycrystalline material properties.	969-979A		
Polishes, Reactions (chemical)			
Extraction and mutual separation of rare earths from used polishes by chemical vapor transport.	45-51B		
Polishing (finishing)			
Extraction and mutual separation of rare earths from used polishes by chemical vapor transport.	45-51B		
Pollution abatement			
Greenhouse gases and the metallurgical process industry.	841-856B		
Sustainability: The materials role.	895-908A		
Porosity			
Fatigue and fracture of porous steels and Cu-infiltrated porous steels.	325-334A		
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis.	361-367B		
Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments.	369-373B		
Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.	2659-2666A		
Porosity, Alloying effects			
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.	1643-1650A		
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.	1651-1655A		
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.	1657-1662A		
Porosity, Pressure effects			
Pore nucleation in solidifying high-purity copper.	2449-2453A		
Porosity, Processing effects			
The mechanism of porous column formation during spray forming.	1679-1682A		
Anomalous pore morphologies in liquid-phase-sintered Al-Zn alloys.	1682-1685A		
Porosity, Welding effects			
Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy.	789-798A		
Postheating			
Precipitation sequence in friction stir weld of 6063 aluminum during aging.	3125-3130A		
Powder coatings, Phases (state of matter)			
Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.	1913-1921A		
Powder coatings, Synthesis			
Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering.	1605-1612A		
Powder compacts, Mechanical properties			
Hot explosive compaction of Mo-Ti alloys.	2483-2489A		
Powder compacts, Phase transformations			
Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field.	751-761A		
Powder metallurgy			
Considering particle morphology in a constitutive model for metal powders compaction.	1159-1162A		
Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhodium.	2641-2648A		
Powder metallurgy parts, Mechanical properties			
Fatigue and fracture of porous steels and Cu-infiltrated porous steels.	325-334A		
Powder spraying			
Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.	1913-1921A		
Precipitates			
The effects of grain-refining precipitates on the development of toughness in 4340 steel.	93-114A		
Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates.	1283-1288A		
Prediction and characterization of variant electron diffraction patterns for γ' and δ precipitates in an Inconel 718 alloy.	2297-2303A		
Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.	2803-2808A		
Precipitates, Crystal growth			
Precipitation of an intermetallic phase with Pt_2Mo -type structure in alloy 625.	41-52A		
Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field.	2591-2598A		
Precipitates, Welding effects			
Microstructural evolution of 6063 aluminum during friction-stir welding.	2429-2437A		
Precipitation			
Precipitation of an intermetallic phase with Pt_2Mo -type structure in alloy 625.	41-52A		
A solution chemistry approach to the study of rare earth element precipitation by oxalic acid.	189-195B		
Preparation of ammonium chloroplatinate by a precipitation stripping of Pt(IV)-loaded Alamine 336 or TBP.	197-203B		
An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.	501-512A		
Secondary carbide precipitation in a directionally solidified cobalt-base superalloy.	513-520A		
Characterization and modeling of the precipitation of the sigma phase in Udimet 720 and Udimet 720LI.	521-533A		
Study of precipitation kinetics in a super purity Al-0.8% Mg-0.9% Si alloy using differential scanning calorimetry.	879-884A		
The precipitation of hematite from ferric chloride media at atmospheric pressure.	993-1001B		
Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates.	1283-1288A		
Dendritic morphology observed in the solid-state precipitation in binary alloys.	1529-1534A		
Prediction and characterization of variant electron diffraction patterns for γ' and δ precipitates in an Inconel 718 alloy.	2297-2303A		
Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field.	2591-2598A		
Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method.	2783-2789A		
Precipitation, Coating effects			
Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.	1913-1921A		
Precipitation, Deformation effects			
Effect of cold rolling on the precipitation behavior of δ phase in Inconel 718.	31-40A		
Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite.	2539-2545A		
Precipitation, Heating effects			
Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C.	345-353A		
Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel.	1663-1673A		
The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet.	1999-2006A		
The microstructural evolution in Ti-Al-Nb O-bcc orthorhombic alloys. I.	2305-2323A		
Mechanism of the formation of lamellar $M_{23}C_6$ at and near twin boundaries in austenitic stainless steels.	2791-2801A		
Precipitation, Welding effects			
Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel.	161-174A		
Microstructural evolution of 6063 aluminum during friction-stir welding.	2429-2437A		
Precipitation hardening			
Aging behavior of an Al-Li-Cu-Mg-Zr alloy.	741-749A		
Precipitation hardening, Alloying effects			
Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.	1923-1931A		
Precipitation hardening, Composition effects			
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys.	1381-1389A		
Precipitation hardening alloys, Mechanical properties			
Low-cycle fatigue crack initiation and break in strain-life curve of Al-Li 8090 alloy.	887-890A		
Precipitation hardening alloys, Phase transformations			
Study of precipitation kinetics in a super purity Al-0.8% Mg-0.9% Si alloy using differential scanning calorimetry.	879-884A		
Precipitation hardening alloys, Structural hardening			
Aging behavior of an Al-Li-Cu-Mg-Zr alloy.	741-749A		
Precipitation hardening steels, Mechanical properties			
Growth of small fatigue cracks in PH 13-8 Mo stainless steel.	1289-1300A		
Precipitation hardening steels, Phase transformations			
Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C.	345-353A		
An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.	501-512A		
Precipitation heat treatment			
Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy.	1249-1259A		
Precipitation heat treatment, Welding effects			
Precipitation sequence in friction stir weld of 6063 aluminum during aging.	3125-3130A		
Preferred orientation			
Thermal expansion of morphologically textured short-fiber composites.	203-212A		

Prestraining					
Yield behavior of a mild steel after prestraining and aging under reversed stress.	411-416A			Thermodynamics and phase equilibria involving the spinel solid solution $\text{Fe}_3\text{Mg}_{1-x}\text{Cr}_2\text{O}_4$.	865-871B
Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining.	1327-1331A			Reduction of iron-silicon-oxy-sulfide by CO gas injection.	873-875B
Printed circuits, Surface finishing				Nonisothermal gravimetric investigation on kinetics of reduction of magnetite by aluminum.	1003-1008B
Electrochemical interfacial phenomena under microgravity. I. Anodic dissolution of copper in drop shaft.	99-105B			Kinetics of oxychlorination of magnesium oxide.	1009-1015B
Probes, Coating				The effect of MgO on liquidus temperatures of fayalite slags.	1017-1026B
Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals.	1971-1979A			Quenching (cooling)	
Probes, Development				Fatigue and fracture of porous steels and Cu-infiltrated porous steels.	325-334A
Development and calibration of a Karman vortex probe for measurement of molten-steel velocities.	53-59B			Analysis of temperature and microstructure in the quenching of steel cylinders.	815-822B
Probes, Magnetic properties				Quenching and tempering	
Toward a probe for velocity measurement in molten metals at high temperatures.	623-630B			The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.	2419-2428A
Process control				Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel.	2825-2834A
Characteristics of continuous-galvanizing baths.	144-148B			Radioactive waste	
Erratum: Investigation of inclusion re-entrainment from the steel-slag interface.	149B			Preparation and physical characteristics of a lithium-beryllium-substituted fluorapatite.	147-153A
Optimizing the operation of straight-grate iron-ore pellet induration systems using process models.	803-813B			Rapid solidification	
Process parameters				Closure-affected fatigue crack propagation behaviors of powder metallurgy-processed Al-Li alloys in various environments.	2097-2102A
Strategies for optimal operation of the tellurium electrowinning process.	5-13B			Superheating behavior of NiAl: Authors' reply.	3265A
Protective coatings, Chemical analysis				Rare earth metals, Binary systems	
Distribution of aluminum in hot-dip galvanized coatings.	3031-3044A			The neodymium-gold phase diagram.	1169-1176A
Protective coatings, Corrosion				Rare earth metals, Recovering	
Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers.	2129-2134A			Extraction and mutual separation of rare earths from used polishes by chemical vapor transport.	45-51B
Protective coatings, Crystal growth				A solution chemistry approach to the study of rare earth element precipitation by oxalic acid.	189-195B
Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by hydride vapour phase epitaxy.	1047-1051A			Reaction kinetics	
Protective coatings, Diffusion				A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon steel.	107-117B
Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.	799-806A			Activity coefficient of nickel oxide in BaO-based slags.	143-144B
Protective coatings, Irradiation				Studies on the chlorination of zircon. I. Static bed investigations.	205-213B
Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation.	3131-3141A			A study of the reduction rate of FeO in slag by solid carbon. Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations.	215-221B
Protective coatings, Oxidation				Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.	223-229B
Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy.	2679-2687A			Influence of pellet composition and structure on carbothermic reduction of silica.	279-286B
Pseudoelasticity				Simultaneous oxidation and sigma-phase formation in a stainless steel.	295-306B
Strain dependence of pseudoelastic hysteresis of NiTi. Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading.	1275-1282A			Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas.	355-362A
Pulleys, Mechanical properties				Chlorination and carbochlorination of magnesium oxide. Titanium powder prepared by magnesiothermic reduction of Ti^{2+} in molten salt.	375-381B
Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys.	81-92A			The rate of reaction of solid iron with oxidized "FeO"-CaO- SiO_2 - Al_2O_3 slags at 1360°C—the chemical diffusivity of iron oxide.	383-391B
Purification				An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.	403-410B
Simulation of the removal of arsenic during the roasting of copper concentrate.	393-401B			Characterization and modeling of the precipitation of the sigma phase in Udimet 720 and Udimet 720LI.	465-472B
Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc.	607-611B			Chlorination of chalcocopyrite concentrates.	501-512A
Purity, Processing effects				A study of chromite carbochlorination kinetics.	521-533A
Strategies for optimal operation of the tellurium electrowinning process.	5-13B			Evaluation of a process that uses phosphate additions to upgrade titania slag.	567-576B
Pyrolysis				Interaction between nonstoichiometric titanium carbide and Fe-C alloys.	577-587B
Effect of heat and mass transfer on the thermal decomposition of SrCO_3 compacts.	901-908B			Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron.	823-826B
Pyrometallurgy				Study of precipitation kinetics in a super purity Al-0.8% Mg-0.9% Si alloy using differential scanning calorimetry.	857-863B
Experimental study of phase equilibria in the system PbO-ZnO- SiO_2 .	21-27B			Kinetics of homogeneous martensitic nucleation in iron-based alloys.	877-889B
Thermodynamics of TiO_2 in blast furnace-type slags.	29-43B			Nonisothermal gravimetric investigation on kinetics of reduction of magnetite by aluminum.	884-887A
Extraction and mutual separation of rare earths from used polishes by chemical vapor transport.	45-51B			Kinetics of oxychlorination of magnesium oxide.	1003-1008B
Studies on the chlorination of zircon. I. Static bed investigations.	205-213B			Thermodynamic modeling of lead distribution among matte, slag, and liquid copper.	1009-1015B
A study of the reduction rate of FeO in slag by solid carbon. Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas.	375-381B			A process model for the microstructure evolution in ductile cast iron. I. The model.	1033-1044B
Chlorination and carbochlorination of magnesium oxide. Simulation of the removal of arsenic during the roasting of copper concentrate.	383-391B			A process model for the microstructure evolution in ductile cast iron. II. Applications of the model.	1053-1068A
Titanium powder prepared by magnesiothermic reduction of Ti^{2+} in molten salt.	403-410B			Carbothermic reduction of ilmenite (FeTiO_3) and rutile (TiO_2). Triggering steam explosions of single drops of a molten ferro-silicon alloy with a simple encapsulated mechanical impactor.	1069-1079A
Chlorination of chalcocopyrite concentrates.	567-576B			A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model.	1075-1081B
A study of chromite carbochlorination kinetics.	577-587B				1083-1088B
Thermodynamics of the miscibility gap in the Ag-Se system.	589-595B				
The effect of Al_2O_3 on liquidus temperatures of fayalite slags.	597-605B				1147-1151A

- A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1153-1157A
- Investigation of microstructural coarsening in Sn-Pb alloys. 1541-1547A
- Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
- Reaction kinetics, Deformation effects**
- Effect of cold rolling on the precipitation behavior of δ phase in Inconel 718. 31-40A
- Reaction kinetics, Field effects**
- Dendritic growth tip velocities and radii of curvature in micro-gravity. 3177-3190A
- Reaction kinetics, Heating effects**
- Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron. 2745-2752A
- Reaction kinetics, Pressure effects**
- Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A
- Reaction mechanisms**
- A solution chemistry approach to the study of rare earth element precipitation by oxalic acid. 189-195B
- Preparation of ammonium chloroplatinate by a precipitation stripping of Pt(IV)-loaded Alamine 336 or TBP. 197-203B
- Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formaldehyde concentrations. 223-229B
- A study of chromite carbochlorination kinetics. 577-587B
- Evaluation of a process that uses phosphate additions to upgrade titania slag. 823-826B
- Rate of reduction of $\text{Fe}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$ melts with CO gas. 827-829B
- Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron. 877-889B
- A study of the sulfide capacities of iron-oxide containing slags. 909-920B
- The precipitation of hematite from ferric chloride media at atmospheric pressure. 993-1001B
- Nonisothermal gravimetric investigation on kinetics of reduction of magnesite by aluminum. 1003-1008B
- Kinetics of oxychlorination of magnesium oxide. 1009-1015B
- Carbothermic reduction of ilmenite (FeTiO_3) and rutile (TiO_2). 1075-1081B
- A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model. 1147-1151A
- A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1153-1157A
- Recrystallization**
- Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-813A
- On the origin of the R orientation in the recrystallization textures of aluminum alloys. 1517-1527A
- Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 1885-1887A
- Recrystallization, Heating effects**
- Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Recrystallization, Welding effects**
- Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
- Recycling**
- Sustainability: the materials role. 157-170B
- Refining**
- Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath. 631-637B
- Relaxation**
- Fifty-year study of grain-boundary relaxation. 2267-2295A
- Residual stress**
- The influence of internal stresses on the fracture toughness of α/β titanium alloys. 2853-2863A
- Residual stress, Welding effects**
- Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy. 1797-1808A
- Resistivity, Processing effects**
- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Retained austenite**
- Deformation of metastable austenite and resulting properties during the ausform-fining of 1% carburized AISI 9310 steel gears. 183-193A
- Reviews**
- Deformation behavior of silicon. 1465-1479A
- Rhenium, Rolling**
- Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium. 2641-2648A
- Rods, Casting**
- A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A
- Rolling**
- Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite. 2539-2545A
- Rolling mill rolls, Mechanical properties**
- Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A
- Rolling texture**
- On the origin of the R orientation in the recrystallization textures of aluminum alloys. 1517-1527A
- The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A
- Room temperature**
- Indentation power-law creep of high-purity indium. 601-610A
- A fine γ/α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties. 1495-1501A
- Rupturing, Alloying effects**
- The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A
- Rutile, Reactions (chemical)**
- Evaluation of a process that uses phosphate additions to upgrade titania slag. 823-826B
- Rutile, Reduction (chemical)**
- Carbothermic reduction of ilmenite (FeTiO_3) and rutile (TiO_2). 1075-1081B
- Sandblasting**
- Erosion of SS41 steel by sand blasting. 941-948A
- Sandwich construction, Forging**
- Open-die forging of structurally porous sandwich panels. 2689-2699A
- Sapphire, Composite materials**
- Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Scale (corrosion), Coating effects**
- Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A
- Scandium, Alloying additive**
- Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A
- Screw dislocations**
- A general numerical method to solve for dislocation configurations. 2073-2087A
- Secondary hardening**
- An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel. 501-512A
- Sedimentation, Processing effects**
- Settling of multisized clusters of alumina particles in liquid aluminum. 241-247B
- Segregations**
- A mathematical model for surface segregation in aluminum direct chill casting. 135-142B
- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A
- Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature. 1613-1623A
- Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm. 1625-1633A
- Macrosegregation caused by thermosolutal convection during directional solidification of Pb-Sb alloys. 2167-2171A
- A unified model of microsegregation and coarsening. 2183-2189A
- Segregations, Diffusion effects**
- Approximate models of microsegregation with coarsening. 3016-3019A
- Segregations, Field effects**
- Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field. 1809-1815A
- Selenium, Binary systems**
- Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
- Selenium, Extraction**
- Photocatalytic reduction of selenate and selenite solutions using TiO_2 powders. 15-20B
- Selenium compounds, Reduction (chemical)**
- Photocatalytic reduction of selenate and selenite solutions using TiO_2 powders. 15-20B
- Self-propagating synthesis**
- Micropropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 781-788A
- Field-activated combustion synthesis of titanium aluminides. 1101-1108A

- Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering. 1605-1612A
Hot explosive compaction of Mo-Ti alloys. 2483-2489A
- Semi-solid processing**
Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state. 1137-1146A
- Semiconductors, Coating**
Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by hydride vapour phase epitaxy. 1047-1051A
- Separation**
Recycling of aluminum matrix composites. 839-844A
Study of electromagnetic separation of nonmetallic inclusions from aluminum melt. 2979-2988A
- Serrated yielding**
Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys. 387-397A
On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2547-2549A
- Shape memory**
Magnetic transformation of Ni_2AlMn Heusler-type shape memory alloys. 2721-2723A
- Shape memory, Alloying effects**
Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. 2599-2604A
- Shape memory alloys, Phase transformations**
Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals. 493-499A
Microstructure and martensitic transformations in a dual-phase α/β Cu-Zn alloy. 729-739A
Strain dependence of pseudoelastic hysteresis of NiTi. 1275-1282A
Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. 2599-2604A
Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Shear modulus, Temperature effects**
Temperature and composition dependence of the elastic constants of Ni_3Al . 2403-2408A
- Shear stress, Heating effects**
Interface characterization of duplex metal-coated SiC fiber-reinforced Ti-15-3 matrix composites. 653-666A
- Sheet metal, Coating**
Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A
- Sheet metal, Metal working**
Prediction of yield surfaces of textured sheet metals. 377-386A
- Sheet metal, Microstructure**
Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A
- Shock**
Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds. 1367-1379A
- Shot peening**
Low-cycle dwell-time fatigue in Ti-6242. 2383-2389A
- Shrinkage**
Modeling the fluid-flow-induced stress and collapse in a dendritic network. 287-293B
- Shrinkage, Alloying effects**
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Shrinkage, Processing effects**
A study on laser sintering of Fe-Cu powder compacts. 2229-2235A
- Sigma phase, Crystal growth**
Simultaneous oxidation and sigma-phase formation in a stainless steel. 355-362A
Characterization and modeling of the precipitation of the sigma phase in Udimet 720 and Udimet 720LI. 521-533A
- Silicates, Reactions (chemical)**
An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na_2O - K_2O - SiO_2 . 67-74B
- Silicides, Coatings**
Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings. 495-504B
Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Silicides, Composite materials**
Fabrication and evaluation of Nb/ Nb_5Si_3 microlaminate foils. 2959-2965A
- Silicides, Crystal growth**
Growth of silicides and interdiffusion in the Mo-Si system. 545-550A
- Silicides, Mechanical properties**
Dislocations, kink bands, and room-temperature plasticity of Ti_3SiC_2 . 1727-1738A
Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A
- Silicides, Thin films**
Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A
- Silicon, Composite materials**
Reactive infiltration of silicon melt through microporous amorphous carbon preforms. 933-944B
- Silicon, Crystal growth**
Dendrite growth processes of silicon and germanium from highly undercooled melts. 1333-1339A
Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply. 3011-3016A
- Silicon, Diffusion**
Growth of silicides and interdiffusion in the Mo-Si system. 545-550A
Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Silicon, Mechanical properties**
Deformation behavior of silicon. 1465-1479A
- Silicon, Ternary systems**
Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
- Silicon, Thin films**
Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-813A
- Silicon carbide, Composite materials**
Thermal expansion of morphologically textured short-fiber composites. 203-212A
Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites. 301-306A
Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue. 307-313A
Fundamental aspects of creep in metal matrix composites. 315-324A
Interface characterization of duplex metal-coated SiC fiber-reinforced Ti-15-3 matrix composites. 653-666A
Monkman-Grant analysis of creep fracture in dispersion-strengthened and particulate-reinforced aluminum. 829-838A
Recycling of aluminum matrix composites. 839-844A
Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation. 845-855A
Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 857-867A
Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 869-878A
Reactive infiltration of silicon melt through microporous amorphous carbon preforms. 933-944B
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state. 1137-1146A
Fatigue in selectively fiber-reinforced titanium matrix composites. 2237-2248A
Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2513-2522A
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
Wear of Al-based hybrid composites containing BN and SiC particulates. 2551-2555A
Degradation mechanism of SiC/super α_2 composite due to interfacial reaction. 2713-2720A
Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites. 2875-2884A
Modeling of composite growth in the directed aluminum melt nitridation process. 2951-2958A
Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites. 3019-3024A
- Silicon carbide, Reactions (chemical)**
Influence of pellet composition and structure on carbothermic reduction of silica. 295-306B
- Silicon carbide, Thin films**
Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach. 799-806A

- Measurement of liquid permeability in the mushy zones of aluminum-copper alloys. 745-750B
- Casting-chill interface heat transfer during solidification of an aluminum alloy. 773-778B
- Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-813A
- An analytical model for nodular eutectic grain predictions during solidification. 927-932B
- A process model for the microstructure evolution in ductile cast iron. I. The model. 1053-1068A
- Dispersion of fine primary inclusions of MgO and ZrO_2 in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B
- A process model for the microstructure evolution in ductile cast iron. II. Applications of the model. 1069-1079A
- Erratum to "Numerical calculation of the permeability in a dendritic mushy zone". 1107B
- Dendrite growth processes of silicon and germanium from highly undercooled melts. 1333-1339A
- Simulation of convection and macrosegregation in a large steel ingot. 1357-1366A
- High-energy x-ray computed tomography of the progression of the solidification front in pure aluminum. 1403-1409A
- Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the electromagnetic levitation method. 1827-1833A
- The Alstruc microstructure solidification model for industrial aluminum alloys. 2135-2146A
- Mathematical modeling of microstructural development in hypoeutectic cast iron. 2147-2158A
- Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures. 2455-2462A
- Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys. 2941-2949A
- The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy. 3055-3068A
- A three-dimensional cellular automaton-finite element model for the prediction of solidification grain structures. 3153-3165A
- Solidification, Alloying effects**
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations. 1643-1650A
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach. 1651-1655A
- The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model. 1657-1662A
- Solidification, Composite materials**
- Liquid-solid partition ratios in nickel-base alloys. 2173-2181A
- Solidification, Diffusion effects**
- Role of back-diffusion studied by computer simulation. 1635-1641A
- Solidification, Field effects**
- Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field. 1809-1815A
- Discussion of "Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply. 1887-1894A
- Dendritic growth tip velocities and radii of curvature in microgravity. 3177-3190A
- Solidification, Processing effects**
- The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys. 1817-1826A
- Solution annealing**
- Low-cycle dwell-time fatigue in Ti-6242. 2383-2389A
- Solution heat treatment**
- Effect of alloy preheating on the mechanical properties of as-cast Co-Cr-Mo-C alloys. 611-620A
- Phase transformation of Zn-4Al-3Cu alloy during heat treatment. 917-923A
- Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite. 2539-2545A
- Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys. 2649-2657A
- Mechanism of the formation of lamellar $M_{23}C_6$ at and near twin boundaries in austenitic stainless steels. 2791-2801A
- Sour gas, Environment**
- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A
- Spalling, Heating effects**
- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Spheroidal structure, Deformation effects**
- Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire. 717-727A
- Spinel, Reactions (chemical)**
- Thermodynamics and phase equilibria involving the spinel solid solution $Fe_xMg_{1-x}Cr_2O_4$. 865-871B
- Spinodal decomposition**
- Ordering transformation and spinodal decomposition in Au-Ni alloys. 707-716A
- Spray forming**
- The mechanism of porous column formation during spray forming. 1679-1682A
- Sprayed coatings, Crystal growth**
- On the mechanism of mushy layer formation during droplet-based processing. 527-539B
- Sprayed coatings, Phases (state of matter)**
- Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A
- Spraying**
- Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A
- Sputtered coatings, Mechanical properties**
- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A
- Sputtered coatings, Microstructure**
- Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Sputtering**
- Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061. 2191-2199A
- Synthesis and characterization of Ti-Si-C-N films. 2439-2447A
- Fabrication and evaluation of Nb/Nb₅S₃ microlaminate foils. 2959-2965A
- Squeeze casting**
- The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
- Stainless steels, Refining**
- A thermodynamic study of BaO-BaF₂-Cr₂O₃ system fluxes used for dephosphorization of chromium-containing iron melts. 451-457B
- Stampings, Coating**
- The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. 1999-2006A
- Steam, Reactions (chemical)**
- Triggering steam explosions of single drops of a molten ferro-silicon alloy with a simple encapsulated mechanical impactor. 1083-1088B
- Steels, Casting**
- Development and calibration of a Karman vortex probe for measurement of molten-steel velocities. 53-59B
- Erratum: Investigation of inclusion re-entrainment from the steel-slag interface. 149B
- The challenge of quality in continuous casting processes. 553-566B
- Modeling of inclusion removal in a tundish. 639-654B
- Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. 979-985B
- Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model. 1095-1105B
- Steels, Coating**
- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A
- Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. 681-695A
- Characterization of the W_2C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. 1913-1921A
- Steels, Heat treatment**
- Analysis of temperature and microstructure in the quenching of steel cylinders. 815-822B
- Application of the cluster variation method to ordering in an interstitial solid solution: the γ -Fe(N)/ γ -Fe₂N_{1-x} equilibrium. 1945-1953A
- Steels, Machining**
- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Steels, Melting**
- Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt. 411-418B
- Steels, Microstructure**
- Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire. 717-727A
- Stirring**
- Height of the spout of a gas plume discharging from a metal melt. 655-660B
- Strain aging**
- On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2547-2549A

- Silicon dioxide, Coatings**
Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals. 1971-1979A
- Silicon dioxide, Composite materials**
The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A
Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum. 815-824A
The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments. 1835-1841A
- Silicon dioxide, Reactions (chemical)**
Influence of pellet composition and structure on carbothermic reduction of silica. 295-306B
Rate of reduction of $\text{Fe}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$ melts with CO gas. 827-829B
A study of the sulfide capacities of iron-oxide containing slags. 909-920B
Phase-diagram study for the $\text{Al}_2\text{O}_3\text{-CaF}_2\text{-SiO}_2$ system. 921-925B
- Silicon dioxide, Ternary systems**
Experimental study of phase equilibria in the system PbO-ZnO-SiO_2 . 21-27B
- Silicon manganese steels, Diffusion**
Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Silicon nitride, Composite materials**
Fabrication and characteristics of AA6061/ Si_3N_4 composite by the pressureless infiltration technique. 2999-3007A
- Silicon steels, Phase transformations**
Bainite transformation temperatures in high-silicon steels. 909-916A
- Silver, Binary systems**
Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
The neodymium-gold phase diagram. 1169-1176A
Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
- Silver, Composite materials**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Silver, Solubility**
Quantitative analysis of the relative basicity of CaO and BaO by silver solubility in slags. 689-694B
- Silver, Ternary systems**
High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Simulation**
Simulation of the removal of arsenic during the roasting of copper concentrate. 393-401B
Analyses of the dynamic processes of liquid metal filtration. 891-900B
The Alstruc microstructure solidification model for industrial aluminum alloys. 2135-2146A
- Single crystals, Mechanical properties**
The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron. 155-159A
Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole heights. 777-779A
Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
- Sintered compacts, Mechanical properties**
Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts. 465-470A
- Sintered compacts, Oxidation**
Surface oxide and the role of magnesium during the sintering of aluminum. 457-463A
- Sintering (powder metallurgy)**
Surface oxide and the role of magnesium during the sintering of aluminum. 457-463A
Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts. 465-470A
A study on laser sintering of Fe-Cu powder compacts. 2229-2235A
Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Slab casting, Quality control**
The challenge of quality in continuous casting processes. 553-566B
- Slags, Reactions (chemical)**
Thermodynamics of TiO_2 in blast furnace-type slags. 29-43B
Activity coefficient of nickel oxide in BaO-based slags. 143-144B
Erratum: Investigation of inclusion re-entrainment from the steel-slag interface. 149B
Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO. 279-286B
Thermodynamics of iron oxide in Fe_2O_3 -dilute $\text{CaO+Al}_2\text{O}_3\text{+MgO+Fe}_2\text{O}_3$ slags at 1873K. 419-427B
Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of $\text{CaO-MgO-SiO}_2\text{-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-MnO-P}_2\text{O}_5$. 435-442B
- The rate of reaction of solid iron with oxidized "FeO"-CaO- $\text{SiO}_2\text{-Al}_2\text{O}_3$ slags at 1360°C—the chemical diffusivity of iron oxide. 465-472B
The effect of Al_2O_3 on liquidus temperatures of fayalite slags. 597-605B
A thermodynamic database for copper smelting and converting. 661-669B
Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of Al_2O_3 , Fe_2O_3 , and basicity in the sinter ore. 671-683B
High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system. 695-705B
Evaluation of a process that uses phosphate additions to upgrade titania slag. 823-826B
Rate of reduction of $\text{Fe}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$ melts with CO gas. 827-829B
Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron. 877-889B
A study of the sulfide capacities of iron-oxide containing slags. 909-920B
Phase-diagram study for the $\text{Al}_2\text{O}_3\text{-CaF}_2\text{-SiO}_2$ system. 921-925B
The effect of MgO on liquidus temperatures of fayalite slags. 1017-1026B
Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B
- Slags, Solubility**
Quantitative analysis of the relative basicity of CaO and BaO by silver solubility in slags. 689-694B
Solubility of carbon in CaO- B_2O_3 and BaO- B_2O_3 slags. 1045-1052B
- Sliding friction**
Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
- Sliding friction, Environmental effects**
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
- Slip**
High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. 371-376A
Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy. 579-585A
Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys. 991-1001A
- Slip, Temperature effects**
Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep. 2989-2997A
- Slip bands, Deformation effects**
Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observations. 2491-2501A
- Smelting**
A study of the reduction rate of FeO in slag by solid carbon. 215-221B
Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
The effect of Al_2O_3 on liquidus temperatures of fayalite slags. 597-605B
A thermodynamic database for copper smelting and converting. 661-669B
Rate of reduction of $\text{Fe}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$ melts with CO gas. 827-829B
The effect of MgO on liquidus temperatures of fayalite slags. 1017-1026B
- Softening, Welding effects**
Quantitative evaluation of softened regions in weld heat-affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process. 2115-2120A
- Solders, Mechanical properties**
Solid solution creep behavior of Sn-xBi alloys. 115-122A
Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. 123-132A
Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1301-1313A
- Solders, Microstructure**
Investigation of microstructural coarsening in Sn-Pb alloys. 1541-1547A
- Solders, Phases (state of matter)**
Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A
- Solders, Reactions (chemical)**
Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- Solidification**
Mathematical modeling of copper and brass upcasting. 75-98B
Modeling the fluid-flow-induced stress and collapse in a dendritic network. 287-293B
Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. 505-513B
On the mechanism of mushy layer formation during droplet-based processing. 527-539B
Numerical calculation of the permeability in a dendritic mushy zone. 613-622B
Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B
A thermally coupled flow formulation with microstructural evolution for hypoeutectic cast-iron solidification. 731-744B

Strain hardening

- Deformation of metastable austenite and resulting properties during the ausform-fining of 1% carburized AISI 9310 steel gears. 183-193A
- On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2547-2549A

Strain hardening, Composition effects

- Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. 123-132A

Strain hardening, Microstructural effects

- Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. 1193-1202A
- Influence of grain size on the constitutive response and substructure evolution of Monel 400. 1235-1247A

Strain rate, Alloying effects

- Influence of calcium addition on the superplastic-like behavior of extruded Al-Al₃Ni eutectic alloy. 2258-2260A

Strain softening, Composition effects

- Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. 123-132A

Stress analysis

- Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy. 1797-1808A

Stress concentration

- Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 949-959A

Stress concentration, Processing effects

- The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum. 195-201A

Stress corrosion cracking

- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history. 1882-1885A

Stress corrosion cracking, Alloying effects

- Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy. 1017-1024A

Stress corrosion cracking, Deformation effects

- Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining. 1327-1331A
- Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution. 3191-3199A

Stress corrosion cracking, Heating effects

- The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport. 2419-2428A

Stress intensity

- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A

Stress strain curves

- Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys. 81-92A
- Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A
- Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
- Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation. 845-855A
- Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation. 857-867A
- Mechanical behavior of Al-Li/SiC composites. III. Micromechanical modeling. 869-878A
- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
- Growth of small fatigue cracks in PH 13-8 Mo stainless steel. 1289-1300A
- The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A
- Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading. 1933-1943A
- Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy by repeated thermomechanical treatment to produce a heavily deformable material. 2221-2228A
- Influence of calcium addition on the superplastic-like behavior of extruded Al-Al₃Ni eutectic alloy. 2258-2260A
- Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observations. 2491-2501A
- Properties of the Ir₈₅Nb₁₅ two-phase refractory superalloys with nickel additions. 2629-2639A
- Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution. 3191-3199A
- Effect of initial microstructure on plastic flow and dynamic globalization during hot working of Ti-6Al-4V. 3219-3229A

Striations, Deformation effects

- Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation. 53-64A

Strontium, Alloying additive

- The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres. 1027-1032B
- The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy. 1341-1356A

Strontium compounds, Reduction (chemical)

- Effect of heat and mass transfer on the thermal decomposition of SrCO₃ compacts. 901-908B

Structural steels, Welding

- Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel. 2089-2096A

Sulfur, Reactions (chemical)

- Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B
- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B
- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B

Sulfur, Ternary systems

- High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Investigation of the surface of the liquidus of the Fe-Ni-S system at X_S<0.51. 715-722B

Superalloys, Coating

- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy. 2679-2687A

Superalloys, Crystal growth

- Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differential scanning calorimetry. 1885-1887A

Superalloys, Heat treatment

- Evaluation of halide-activated pack boriding of Inconel 722. 670-675A
- Development of a heat treatment for a directionally solidified cobalt-base superalloy. 2251-2254A

Superalloys, Mechanical properties

- The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures. 551-561A
- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A
- An intergranular creep crack growth model based on grain boundary sliding. 1039-1045A
- Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. 1249-1259A
- Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Effect of small amounts of nitrogen on properties of a Ni-based superalloy. 1755-1761A
- Modeling solid-particle erosion of ductile alloys. 1763-1774A

Superalloys, Metal working

- Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A

Superalloys, Metallography

- Transmission x-ray diffraction of single-crystal nickel-base superalloys. 1880-1882A

Superalloys, Microstructure

- Deformed microstructure of the single-crystal superalloy NASAIR 100 at 1050°C. 2843-2852A

Superalloys, Oxidation

- The effect of water vapor on the oxidation of alloys that develop alumina scales for protection. 2905-2913A

Superalloys, Phase transformations

- Effect of cold rolling on the precipitation behavior of δ phase in Inconel 718. 31-40A
- Precipitation of an intermetallic phase with Pt₂Mo-type structure in alloy 625. 41-52A
- Secondary carbide precipitation in a directionally solidified cobalt-base superalloy. 513-520A
- Characterization and modeling of the precipitation of the sigma phase in Udimet 720 and Udimet 720LI. 521-533A

Superalloys, Phases (state of matter)

- Prediction and characterization of variant electron diffraction patterns for γ' and δ precipitates in an Inconel 718 alloy. 2297-2303A

Superalloys, Structural hardening		
Effect of cold rolling and annealing on the structure of γ'' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.	1923-1931A	
Superalloys, Thermal properties		
Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.	2803-2808A	
Superalloys, Welding		
Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding.	417-426A	
The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.	981-989A	
Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy.	1797-1808A	
Supercooling		
Dendrite growth processes of silicon and germanium from highly undercooled melts.	1333-1339A	
Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys.	2941-2949A	
Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply.	3011-3016A	
Superheating behavior of NiAl: Authors' reply.	3265A	
Superheating		
Discussion of "Superheating behavior of NiAl".	1675A	
Superheating behavior of NiAl: Authors' reply.	3265A	
Superplastic forming		
Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation.	53-64A	
Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution.	3191-3199A	
Superplasticity		
Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation.	53-64A	
Superplasticity, Alloying effects		
Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.	1185-1191A	
Influence of calcium addition on the superplastic-like behavior of extruded Al-Al ₃ Ni eutectic alloy.	2258-2260A	
Superplasticity, Microstructural effects		
The effect of grain size and temperature on the superplastic deformation behavior of a 7075 Al alloy.	2037-2047A	
Surface alloying		
Microstructure of TiB ₂ /carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation.	3143-3151A	
Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels.	3263-3265A	
Surface chemistry, Field effects		
Electrochemical interfacial phenomena under microgravity. II. Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution.	779-790B	
Surface hardening		
Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation.	1211-1221A	
Surface structure, Heating effects		
Application of the cluster variation method to ordering in an interstitial solid solution: the γ -Fe(Ni)/ γ -Fe ₂ N _{1-x} equilibrium.	1945-1953A	
Surface structure, Processing effects		
The solidification characteristics of laser surface-remelted Fe-12Cr-nC alloys.	1817-1826A	
Surface tension, Alloying effects		
The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres.	1027-1032B	
Surgical implants, Phase transformations		
Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.	1177-1184A	
Swaging		
Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys.	2649-2657A	
Tantalum, Alloying elements		
Liquid-solid partition ratios in nickel-base alloys.	2173-2181A	
Tantalum, Ternary systems		
Experimental study and thermodynamic assessment of the Ni-Mo-Ta ternary system.	2735-2744A	
Tearing		
A new hot-tearing criterion.	449-455A	
Tellurium, Extraction		
Strategies for optimal operation of the tellurium electrowinning process.	5-13B	
Temperature control		
Two-dimensional dynamic simulation of the thermal state of ladles.	323-330B	
Temperature distribution		
Two-dimensional dynamic simulation of the thermal state of ladles.	323-330B	
Tempering		
The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.	1835-1841A	
Tensile properties, Composition effects		
Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.	845-855A	
Tensile properties, Processing effects		
Fabrication and characteristics of AA6061/Si ₃ N ₄ composite by the pressureless infiltration technique.	2999-3007A	
Tensile strength		
Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system.	3111-3124A	
Tensile strength, Alloying effects		
Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy.	1017-1024A	
The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy.	1341-1356A	
Effect of small amounts of nitrogen on properties of a Ni-based superalloy.	1755-1761A	
Tensile strength, Coating effects		
Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites.	3019-3024A	
Tensile strength, Composition effects		
Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue.	307-313A	
Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum.	815-824A	
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys.	1381-1389A	
High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC ₂ /Ti-6Al-4V composite.	1569-1578A	
Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites.	2513-2522A	
Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr ₂ Nb in situ composites.	3239-3251A	
Tensile strength, Corrosion effects		
Degradation mechanism of SiC/super α_2 composite due to interfacial reaction.	2713-2720A	
Tensile strength, Cryogenic effects		
Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-Zr alloys at 293 and 77K.	2254-2258A	
Tensile strength, Deformation effects		
Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.	2503-2512A	
Tensile strength, Heating effects		
Effect of alloy preheating on the mechanical properties of as-cast Co-Cr-Mo-C alloys.	611-620A	
The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.	1835-1841A	
Development of a heat treatment for a directionally solidified cobalt-base superalloy.	2251-2254A	
Tensile strength, High temperature effects		
Modeling high-temperature stress-strain behavior of cast aluminum alloys.	133-146A	
Tensile strength, Microstructural effects		
Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels.	1193-1202A	
A fine γ + α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties.	1495-1501A	
Microstructure-property relations in as-extruded ultrahigh-carbon steels.	1559-1568A	
Tensile strength, Processing effects		
Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts.	465-470A	
Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys.	2649-2657A	
Fabrication and evaluation of Nb/Nb ₅ Si ₃ microlaminate foils.	2959-2965A	
Tensile stress		
The influence of tensile stress states on the failure of HY-100 steel.	2835-2842A	
Ternary systems, Phase transformations		
The influence of temperature gradients on Ostwald ripening.	2341-2348A	
Ternary systems, Phases (state of matter)		
Thermodynamic modeling of the palladium-lead-tin system.	5-18A	

- Experimental study of phase equilibria in the system PbO-ZnO-SiO₂. 21-27B
- Thermodynamic calculation for alloy systems. 271-277B
- High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Investigation of the surface of the liquidus of the Fe-Ni-S system at $X_S < 0.51$. 715-722B
- Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A
- Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1785-1795A
- Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
- Experimental study and thermodynamic assessment of the Ni-Mo-Ta ternary system. 2735-2744A
- Ternary systems, Reactions (chemical)**
- Evaluation of interaction parameters in metallic solutions by the isoactivity method. 3103-3110A
- Texture**
- Thermal expansion of morphologically textured short-fiber composites. 203-212A
- Use of microstructural statistics in predicting polycrystalline material properties. 969-979A
- Texture evolution and the role of grain boundaries in skeletal formation during coarsening in solid-liquid mixtures. 1955-1969A
- Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A
- Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC. 2803-2808A
- Texture, Deformation effects**
- Prediction of yield surfaces of textured sheet metals. 377-386A
- Deformation bands, the LEDS theory, and their importance in texture development. II. Theoretical conclusions. 2391-2401A
- Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observations. 2491-2501A
- Texture, Heating effects**
- Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel. 1663-1673A
- Thermal barriers, Coatings**
- Mathematical modeling of a melt pool driven by an electron beam. 515-525B
- Thermal barriers, Mechanical properties**
- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Thermal conductivity**
- Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals. 1971-1979A
- Thermal cycling**
- Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A
- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Thermal expansion, Composition effects**
- Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites. 2875-2884A
- Thermal expansion, Microstructural effects**
- Thermal expansion of morphologically textured short-fiber composites. 203-212A
- Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC. 2803-2808A
- Thermal fatigue, Composite materials**
- Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron. 1549-1558A
- Thermal fatigue, High temperature effects**
- Modeling high-temperature stress-strain behavior of cast aluminum alloys. 133-146A
- Thermal fatigue, Welding effects**
- The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A
- Thermodynamics**
- Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na₂O-K₂O-SiO₂. 67-74B
- Thermodynamic calculation for alloy systems. 271-277B
- Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO. 279-286B
- Thermodynamics of yttrium and oxygen in molten zirconium. 352-354B
- Thermodynamics of iron oxide in Fe₂O₃-dilute CaO-Al₂O₃+MgO+Fe₂O₃ slags at 1873K. 419-427B
- Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K. 429-433B
- Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of CaO-MgO-SiO₂-Al₂O₃-FeO-MnO-P₂O₅. 435-442B
- Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes. 443-450B
- A thermodynamic study of BaO-BaF₂-Cr₂O₃ system fluxes used for dephosphorization of chromium-containing iron melts. 451-457B
- Thermodynamics of Ca-Ga alloys. 459-464B
- Thermodynamics of the miscibility gap in the Ag-Se system. 589-595B
- A thermodynamic database for copper smelting and converting. 661-669B
- High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system. 695-705B
- High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Erratum: "Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes". 831B
- Interaction between nonstoichiometric titanium carbide and Fe-C alloys. 857-863B
- Thermodynamics and phase equilibria involving the spinel solid solution Fe_xMg_{1-x}Cr₂O₄. 865-871B
- Thermodynamic modeling of lead distribution among matte, slag, and liquid copper. 1033-1044B
- Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron. 1065-1074B
- Thermodynamic assessment of the Al-Fe-Si system. 1081-1095A
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Experimental and thermodynamic investigation of the Ni-Al-Mo system. 1765-1795A
- Thermodynamic prediction of the eutectoid transformation temperatures of low-alloy steels. 2325-2330A
- Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems. 2409-2418A
- Interaction energy between martensitic variants. 2583-2590A
- Experimental study and thermodynamic assessment of the Ni-Mo-Ta ternary system. 2735-2744A
- Evaluation of interaction parameters in metallic solutions by the isoactivity method. 3103-3110A
- Thermomechanical treatment**
- Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy by repeated thermomechanical treatment to produce a heavily deformable material. 2221-2228A
- Thin films, Crystal growth**
- Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-813A
- Thixoforming**
- An induction heating process with coil design and solutions avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3% Mg alloy for thixoforming. 2967-2977A
- Tin, Alloying elements**
- Texture evolution and the role of grain boundaries in skeletal formation during coarsening in solid-liquid mixtures. 1955-1969A
- Tin, Binary systems**
- Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A
- The influence of temperature gradients on Ostwald ripening. 2341-2348A
- Tin, Ternary systems**
- Thermodynamic modeling of the palladium-lead-tin system. 5-18A
- High-temperature phase relations and thermodynamics in the silver-tin-sulfur system. 707-714B
- Thermodynamic modeling of the nickel-lead-tin system. 1481-1494A
- Investigation of the phase equilibria in the Sn-Bi-In alloy system. 1503-1515A
- Tin, Trace elements**
- Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions. 2049-2058A
- Tin base alloys, Mechanical properties**
- Solid solution creep behavior of Sn-xBi alloys. 115-122A
- Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. 123-132A
- Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder. 1301-1313A
- Tin base alloys, Microstructure**
- Investigation of microstructural coarsening in Sn-Pb alloys. 1541-1547A
- Titanium, Alloying additive**
- High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals. 587-600A
- Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. 1185-1191A
- Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. 2599-2604A
- Titanium, Alloying elements**
- Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys. 925-939A

- Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys". 1686A
- Correction to erratum: Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid solution alloys. 3025A
- Titanium, Binary systems**
- $\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. 231-233A
- Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method. 2783-2789A
- Partial Fe-Ti alloy phase diagrams at high pressure. 3009-3011A
- Titanium, Extraction**
- Titanium powder prepared by magnesiothermic reduction of Ti^{2+} in molten salt. 403-410B
- High-temperature phase relations and thermodynamics in the iron-titanium-oxygen system. 695-705B
- Titanium, Extrusion**
- Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures. 1425-1435A
- Titanium, Forging**
- Open-die forging of structurally porous sandwich panels. 2689-2699A
- Titanium, Microstructure**
- Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A
- Titanium, Powder technology**
- Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 781-788A
- Hot explosive compaction of Mo-Ti alloys. 2483-2489A
- Titanium, Ternary systems**
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 1315-1326A
- Evaluation of interaction parameters in metallic solutions by the isoactivity method. 3103-3110A
- Titanium base alloys, Bonding**
- Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb. 2723-2726A
- Titanium base alloys, Composite materials**
- Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature. 221-229A
- Effect of in situ material properties on fatigue damage modes in titanium matrix composites. 255-266A
- Fatigue crack growth in Ti-matrix composites with spatially varied interfaces. 267-275A
- Elastic shielding during fatigue-crack growth of titanium matrix composites. 277-286A
- Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. 287-299A
- Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites. 301-306A
- Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue. 307-313A
- Interface characterization of duplex metal-coated SiC fiber-reinforced Ti-15-3 matrix composites. 653-666A
- Diffusional reactions during processing of Timetal 21S/ Al_2O_3 composites. 1437-1447A
- High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC_p /Ti-6Al-4V composite. 1569-1578A
- Fatigue in selectively fiber-reinforced titanium matrix composites. 2237-2248A
- Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2513-2522A
- Degradation mechanism of SiC/super α_2 composite due to interfacial reaction. 2713-2720A
- Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites. 3019-3024A
- Titanium base alloys, Extrusion**
- Finite-element modeling of nonisothermal equal-channel angular extrusion. 1391-1402A
- Hot working of Ti-6Al-4V via equal channel angular extrusion. 2473-2481A
- Titanium base alloys, Forging**
- Cavitation and failure during hot forging of Ti-6Al-4V. 1411-1424A
- Titanium base alloys, Heat treatment**
- The nitriding behavior of Ti-Al alloys at 1000°C. 19-29A
- Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source. 1597-1603A
- Influence of annealing on depth distributions and microstructure of ion-implanted Ti6Al4V. 2121-2127A
- Titanium base alloys, Mechanical properties**
- The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I. 65-79A
- The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics. 563-577A
- Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 949-959A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 1203-1209A
- Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
- The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. Low-cycle dwell-time fatigue in Ti-6242. 2349-2367A
- On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2383-2389A
- The influence of internal stresses on the fracture toughness of α/β titanium alloys. 2547-2549A
- Influence of the temperature on the plastic deformation in TiAl. 2853-2863A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 2865-2873A
- Titanium base alloys, Metal working**
- Effect of initial microstructure on plastic flow and dynamic globalization during hot working of Ti-6Al-4V. 3089-3097A
- Titanium base alloys, Microstructure**
- Time-dependent twinning during ambient temperature compression creep of alpha Ti-0.4Mn alloy. 3219-3229A
- Titanium base alloys, Phase transformations**
- Stress-induced products in a Ti-14.8V alloy deformed in tension. 1675-1679A
- The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2249-2251A
- Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field. 2305-2323A
- Titanium base alloys, Phases (state of matter)**
- $\beta \rightarrow \alpha'$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. 2591-2598A
- Thermodynamic activities in the alloys of the Ti-Al-Nb system. 231-233A
- Titanium base alloys, Powder technology**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field. 1315-1326A
- Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 751-761A
- Field-activated combustion synthesis of titanium aluminides. 781-788A
- Titanium base alloys, Welding**
- Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy. 1101-1108A
- The role of phase transformation in electron-beam welding of TiAl-based alloys. 789-798A
- Titanium carbide, Coatings**
- Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by high-energy electron beam irradiation. 1717-1726A
- Titanium carbide, Composite materials**
- Interaction between nonstoichiometric titanium carbide and Fe-C alloys. 3131-3141A
- A study on the kinetic process of reaction synthesis of TiC. I. Experimental research and theoretical model. 857-863B
- A study on the kinetic process of reaction synthesis of TiC. II. Theoretical analyses and numerical calculation. 1147-1151A
- High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC_p /Ti-6Al-4V composite. 1153-1157A
- Titanium compounds, Bonding**
- Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb. 1569-1578A
- Titanium compounds, Coatings**
- Synthesis and characterization of Ti-Si-C-N films. 2723-2726A
- Titanium compounds, Composite materials**
- Wear behavior of in situ Al-based composites containing TiB_2 , Al_2O_3 , and Al_3Ti particles. 2439-2447A
- Degradation mechanism of SiC/super α_2 composite due to interfacial reaction. 243-248A
- Wear behavior of Al- Al_3Ti composite manufactured by a centrifugal method. 2713-2720A
- Titanium compounds, Heat treatment**
- The nitriding behavior of Ti-Al alloys at 1000°C. 3253-3261A
- Titanium compounds, Mechanical properties**
- The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ -titanium aluminide based intermetallics. 19-29A
- Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading. 563-577A
- Statistical simulation of small fatigue crack nucleation and coalescence in a lamellar TiAl alloy. 949-959A
- Dislocations, kink bands, and room-temperature plasticity of Ti_3SiC_2 . 1203-1209A
- Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 1727-1738A
- The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II. Influence of the temperature on the plastic deformation in TiAl. 2019-2026A
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 2349-2367A
- Titanium compounds, Phase transformations**
- Strain dependence of pseudoelastic hysteresis of NiTi. 2865-2873A
- 1275-1282A

- The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
- Formation of α phase in the massive and feathery γ -TiAl alloys during aging in the single α field. 2591-2598A
- Transformation behavior of sintered porous NiTi alloys. 2753-2756A
- Titanium compounds, Powder technology**
- Microcyclic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys. 171-188B
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α - γ -phase field. 751-761A
- Thermal analysis of self-propagating high-temperature reactions in titanium, boron, and aluminum powder compacts. 781-788A
- Field-activated combustion synthesis of titanium aluminides. 1101-1108A
- Titanium compounds, Welding**
- The role of phase transformation in electron-beam welding of TiAl-based alloys. 1717-1726A
- Titanium diboride, Alloying elements**
- Microstructure of TiB₂/carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation. 3143-3151A
- Titanium diboride, Composite materials**
- Wear behavior of in situ Al-based composites containing TiB₂, Al₂O₃, and Al₃Ti particles. 243-248A
- Titanium dioxide, Composite materials**
- Wear behavior of in situ Al-based composites containing TiB₂, Al₂O₃, and Al₃Ti particles. 243-248A
- Titanium dioxide, Reactions (chemical)**
- Rate of reduction of Fe₃O₄-SiO₂-TiO₂ melts with CO gas. 827-829B
- Titanium nitride, Coatings**
- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A
- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Titanium nitride, Impurities**
- Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel. 2089-2096A
- Tomography**
- High-energy x-ray computed tomography of the progression of the solidification front in pure aluminum. 1403-1409A
- Tool life, Coating effects**
- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Tool steels, Heat treatment**
- Multicomponent diffusion simulation based on finite elements. 2575-2582A
- Tool steels, Powder technology**
- The mechanism of porous column formation during spray forming. 1679-1682A
- Torsion, Microstructural effects**
- Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys. 1261-1273A
- Transgranular fracture, Alloying effects**
- Properties of the Ir₈₅Nb₁₅ two-phase refractory superalloys with nickel additions. 2629-2639A
- Transgranular fracture, Microstructural effects**
- The effects of grain-refining precipitates on the development of toughness in 4340 steel. 93-114A
- Transition joints, Mechanical properties**
- The influence of solid-state and liquid-phase bonding on fatigue at Al/Al₂O₃ interfaces. 763-769A
- Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system. 3111-3124A
- Tribology**
- Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state. 1137-1146A
- Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
- TRIP steels, Metal working**
- A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process. 2619-2627A
- TRIP steels, Phase transformations**
- Interaction energy between martensitic variants. 2583-2590A
- Tritium, Diffusion**
- Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061. 2191-2199A
- TTT curves**
- Analysis of temperature and microstructure in the quenching of steel cylinders. 815-822B
- Tubes, Mechanical properties**
- Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
- Tungsten, Alloying additive**
- The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy. 627-632A
- Tungsten, Ternary systems**
- The influence of temperature gradients on Ostwald ripening. 2341-2348A
- Tungsten base alloys, Mechanical properties**
- Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys. 1261-1273A
- Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys. 2027-2035A
- Tungsten base alloys, Microstructure**
- The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy. 627-632A
- Tungsten base alloys, Powder technology**
- Application of percolation theory in predicting shape distortion during liquid-phase sintering. 2209-2220A
- Densification and shape distortion in liquid-phase sintering. 3211-3217A
- Tungsten carbide, Composite materials**
- A dual composite of WC-Co. 3231-3238A
- Turbine blades, Casting**
- A three-dimensional cellular automation-finite element model for the prediction of solidification grain structures. 3153-3165A
- Turbine blades, Mechanical properties**
- Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials. 961-968A
- Turbulent flow**
- Turbulence structure of bottom-blowing bubbling jet in a molten Wood's metal bath. 61-66B
- Discussion of "Decay of fluid motion in a filling ladle after tapping" and author's reply. 541-543B
- LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe. 957-967B
- Turning (machining)**
- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Twinning**
- Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α - γ -phase field. 751-761A
- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
- Time-dependent twinning during ambient temperature compression creep of alpha Ti-0.4Mn alloy. 1675-1679A
- Twinning, Stress effects**
- Stress-induced products in a Ti-14.8V alloy deformed in tension. 2249-2251A
- Ultrasonic testing**
- Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A
- Vanadium, Alloying additive**
- Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A
- Vanadium compounds, Mechanical properties**
- Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction. 3089-3097A
- Vapor deposited coatings, Heat treatment**
- Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-current electron beam: micro-structural studies and properties. 2931-2939A
- Velocity measurement**
- Development and calibration of a Karman vortex probe for measurement of molten-steel velocities. 53-59B
- Viscosity**
- Discussion of "Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection" and authors' reply. 349-352B
- Voids**
- Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy. 579-585A
- Cavity sequences in continuously cast billets. I. Analysis of empirical data. 751-761B
- Cavity sequences in continuously cast billets. II. Stochastic models. 763-772B
- Volume fraction**
- Modeling the fluid-flow-induced stress and collapse in a dendritic network. 287-293B
- Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatigue. 307-313A
- Synergistic effects of wear and corrosion for Al₂O₃ particulate-reinforced 6061 aluminum matrix composites. 643-651A

- Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. 1193-1202A
- Fatigue in selectively fiber-reinforced titanium matrix composites. 2237-2248A
- Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites. 2513-2522A
- Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A
- Volume fraction, Processing effects**
Analysis of size distributions of primary oxide inclusions in Fe-10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy. 259-270B
- Waste disposal**
Preparation and physical characteristics of a lithium-beryllium-substituted fluorapatite. 147-153A
- Water, Environment**
Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water. 1579-1596A
- Water, Reactions (chemical)**
Triggering steam explosions of single drops of a molten ferro-silicon alloy with a simple encapsulated mechanical impactor. 1083-1088B
- Water quenching**
Mechanism of the formation of lamellar M₂₃C₆ at and near twin boundaries in austenitic stainless steels. 2791-2801A
- Water vapor, Environment**
The effect of water vapor on the oxidation of alloys that develop alumina scales for protection. 2905-2913A
- Wear mechanisms, Environmental effects**
Dry sliding wear behavior of A356-15% SiC_p composites under controlled atmospheric conditions. 2523-2538A
- Wear rate, Composition effects**
Synergistic effects of wear and corrosion for Al₂O₃ particulate-reinforced 6061 aluminum matrix composites. 643-651A
- Wear resistance**
Interplay between oxidation and wear behavior of the Ti-48Al-2Cr-2Nb-1B alloy. 2019-2026A
- Wear resistance, Composition effects**
Wear behavior of in situ Al-based composites containing TiB₂, Al₂O₃, and Al₃Ti particles. 243-248A
Wear of Al-based hybrid composites containing BN and SiC particulates. 2551-2555A
A dual composite of WC-Co. 3231-3238A
Wear behavior of Al-Al₃Ti composite manufactured by a centrifugal method. 3253-3261A
- Wear resistance, Heating effects**
Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation. 1211-1221A
- Wear resistance, Processing effects**
Composition, microstructure, hardness, and wear properties of high-speed steel rolls. 399-409A
- Weight reduction**
Relation between cooling rates and microstructures in gravity-die-cast AZ91D disks. 723-729B
- Weld metal, Microstructure**
Direction of grain-boundary migration in the weld metal of an austenitic stainless steel. 621-626A
- Welded joints, Heat treatment**
Precipitation sequence in friction stir weld of 6063 aluminum during aging. 3125-3130A
- Welded joints, Magnetic properties**
Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel. 2067-2072A
- Welded joints, Mechanical properties**
Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding. 417-426A
The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding. 981-989A
Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of Waspaloy. 1797-1808A
Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel. 2089-2096A
Quantitative evaluation of softened regions in weld heat-affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process. 2115-2120A
- Welded joints, Microstructure**
Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. 483-493B
Direction of grain-boundary migration in the weld metal of an austenitic stainless steel. 621-626A
- Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy. 789-798A
- Microstructural evolution of 6063 aluminum during friction-stir welding. 2429-2437A
- A process model for the heat-affected zone microstructure evolution in Al-Zn-Mg weldments. 2667-2677A
- A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model. 2915-2929A
- Welded joints, Oxidation**
Role of gaseous environment and secondary precipitation in microstructural degradation of Cr-Mo steel weldments at high temperatures. 2103-2113A
- Welded joints, Phase transformations**
Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A
The role of phase transformation in electron-beam welding of TiAl-based alloys. 1717-1726A
- Welding parameters**
Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy. 789-798A
- Welding wire, Melting**
Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding. 791-801B
- Weldments, Magnetic properties**
Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel. 2067-2072A
- Weldments, Oxidation**
Role of gaseous environment and secondary precipitation in microstructural degradation of Cr-Mo steel weldments at high temperatures. 2103-2113A
- Weldments, Phase transformations**
Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel. 161-174A
- Whisker composites, Mechanical properties**
Processing copper and silver matrix composites by electroless plating and hot pressing. 1119-1136A
- Whisker composites, Recycling**
Recycling of aluminum matrix composites. 839-844A
- Widmanstätten structure, Heating effects**
The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. 2305-2323A
- Wire, Microstructure**
Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire. 717-727A
- Work rolls, Mechanical properties**
Correlation of microstructure and microfracture mechanism of five work rolls. 234-243A
- Workability**
Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working temperatures. 1425-1435A
- X ray diffraction**
Transmission x-ray diffraction of single-crystal nickel-base superalloys. 1880-1882A
- Yield strength**
On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. 2547-2549A
Mathematical modeling of the hot-deformation behavior of superalloy IN718. 2701-2712A
- Yield strength, Alloying effects**
Properties of the Ir₈₅Nb₁₅ two-phase refractory superalloys with nickel additions. 2629-2639A
- Yield strength, Composition effects**
Microstructure and mechanical behavior of spray-deposited high-Li Al-Li alloys. 1381-1389A
High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC₂/Ti-6Al-4V composite. 1569-1578A
Plasticity of continuous fiber-reinforced metals. 1843-1866A
The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys. 2611-2618A
Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites. 2875-2884A
Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr₂Nb in situ composites. 3239-3251A
- Yield strength, Deformation effects**
Yield behavior of a mild steel after prestraining and aging under reversed stress. 411-416A
Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion. 2503-2512A
The influence of rolling practice on notch toughness and texture development in high-strength linepipe. 3045-3054A

Yield strength, Microstructural effects

- Influence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. 1193-1202A
- Influence of grain size and stacking-fault energy on deformation twinning in fcc metals. 1223-1233A
- Influence of grain size on the constitutive response and substructure evolution of Monel 400. 1235-1247A
- Microstructure-property relations in as-extruded ultrahigh-carbon steels. 1559-1568A

Yield strength, Processing effects

- Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium. 2641-2648A

Yield strength, Stress effects

- Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel. 3069-3078A

Yttrium, Reactions (chemical)

- Thermodynamics of yttrium and oxygen in molten zirconium. 352-354B

Zinc, Binary systems

- Dendritic morphology observed in the solid-state precipitation in binary alloys. 1529-1534A

Zinc, Diffusion

- A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple. 535-543A

Zinc, Reactions (chemical)

- Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc. 607-611B

Zinc base alloys, Coatings

- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A

Zinc base alloys, Phase transformations

- Phase transformation of Zn-4Al-3Cu alloy during heat treatment. 917-923A

Zinc compounds, Ternary systems

- Experimental study of phase equilibria in the system PbO-ZnO-SiO₂. 21-27B

Zinc plating

- Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel. 437-448A

Zirconium, Binary systems

- Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed. 1877-1880A

- A numerical model of peritectoid transformation. 2563-2573A

Zirconium, Extraction

- Studies on the chlorination of zircon. I. Static bed investigations. 205-213B
- Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas. 375-381B

Zirconium, Microstructure

- Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A

Zirconium, Reduction (chemical)

- Thermodynamics of yttrium and oxygen in molten zirconium. 352-354B

Zirconium base alloys, Mechanical properties

- Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass. 1739-1753A

Zirconium base alloys, Microstructure

- Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium. 1981-1988A

Zirconium base alloys, Phase transformations

- Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed. 1877-1880A

Zirconium dioxide, Coatings

- Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. 427-435A
- Mathematical modeling of a melt pool driven by an electron beam. 515-525B

Zirconium dioxide, Composite materials

- Discussion of "Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply. 1887-1894A

Zirconium dioxide, End uses

- A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper. 307-321B

Zirconium dioxide, Impurities

- Dispersion of fine primary inclusions of MgO and ZrO₂ in Fe-10 mass% Ni alloy and the solidification structure. 1053-1063B

Zirconium dioxide, Reduction (chemical)

- Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas. 375-381B

Zone melting

- Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-813A